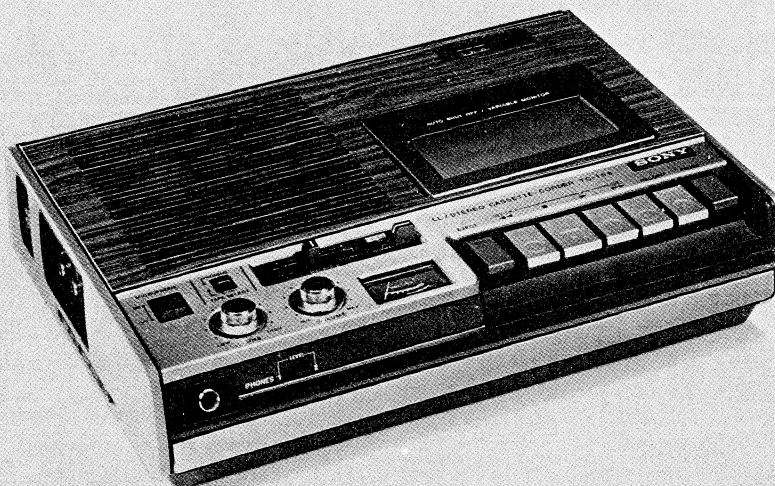


TC-156

1443

E Model
AEP Model



LL/STEREO CASSETTE-CORDER

SPECIFICATIONS

Power Requirements: 110 V, 127, 220 and 240 V,
AC 50/60 Hz (AEP)
100 ~ 110 V, 115 ~ 127 V, 200 ~ 220 V
and 230 ~ 250 V, AC 50/60 Hz (E)
DC 6V
 { Battery size "D" x 4
 { Rechargeable battery BP-8
 { Car Battery DC 12V by using SONY
 { car battery cord DCC-127

Power Consumption: AC 8.5 W (E)
AC 12 W (AEP)

Track System: Four-track stereo/LL

Tape Speed: 4.8 cm/s (1 7/8 ips)

Frequency Response: 40 ~ 10,000 Hz (at normal tape)
40 ~ 13,000 Hz (at chromium
dioxide tape)

Signal-to-Noise Ratio: 47 dB

Wow and Flutter: 0.22% (RMS) weighted.

Overall Distortion: 2.5%:

Erase Ratio: 60 dB

Cross Talk: 55 dB (between tracks)
26 dB (between channels)

Power Output: 1.5W maximum

Record Bias Frequency: Approx. 85 kHz

Erase Head: EF152-3602 (540 Ω /80 kHz)

Record/playback Head: PP128-3602 (750 Ω /1 kHz)

Motor: D-009F (servo controlled)

Built-in Microphone: C-1002A (electret condenser)

Automatic Shut-off Mechanism: Tape tension detection system (operates
in playback and record modes only)

Inputs: Two MIC inputs
Impedance: Low impedance
Maximum sensitivity: -72 dB (0.2 mV)

Two LINE Inputs
Impedance: 560 k Ω
Maximum sensitivity: -22 dB (60 mV)
REC/PB connector
Input impedance: 2 k Ω

Outputs: Two LINE Outputs
Impedance: 10 k Ω or more
Output level: 0 dB (0.775 V) with
100 k Ω load

MONITOR output
Impedance: 10 k Ω or more
Accepts an 8 ohms earphone
Output level: 0 dB (0.775 V) with 10 k Ω load

PHONES jack
Impedance: 8 Ω
Output level: -30 dB (25 mV)

REC/PB connector
Output impedance: 8 k Ω
Load impedance: 50 k Ω

Battery Life: Long-life dry cell
Approximately 7.5 hours of continuous
recording by using built-in microphone
Rechargeable battery
Approximately 6.5 hours of continuous
recording by using built-in microphone
(charging time: approximately 24 hours)

Speaker: 10 cm (4") dynamic speaker
Voice coil impedance: 8 Ω

Semiconductors: 1 FET, 26 transistors and 9 diodes

Dimensions: 322(w) x 80(d) x 238(h) mm
12 11/16 (w) x 3 3/16 (d) x 9 3/8 (h) inches

Weight: 3.8 kg, 8 lb 7 oz (with battery)

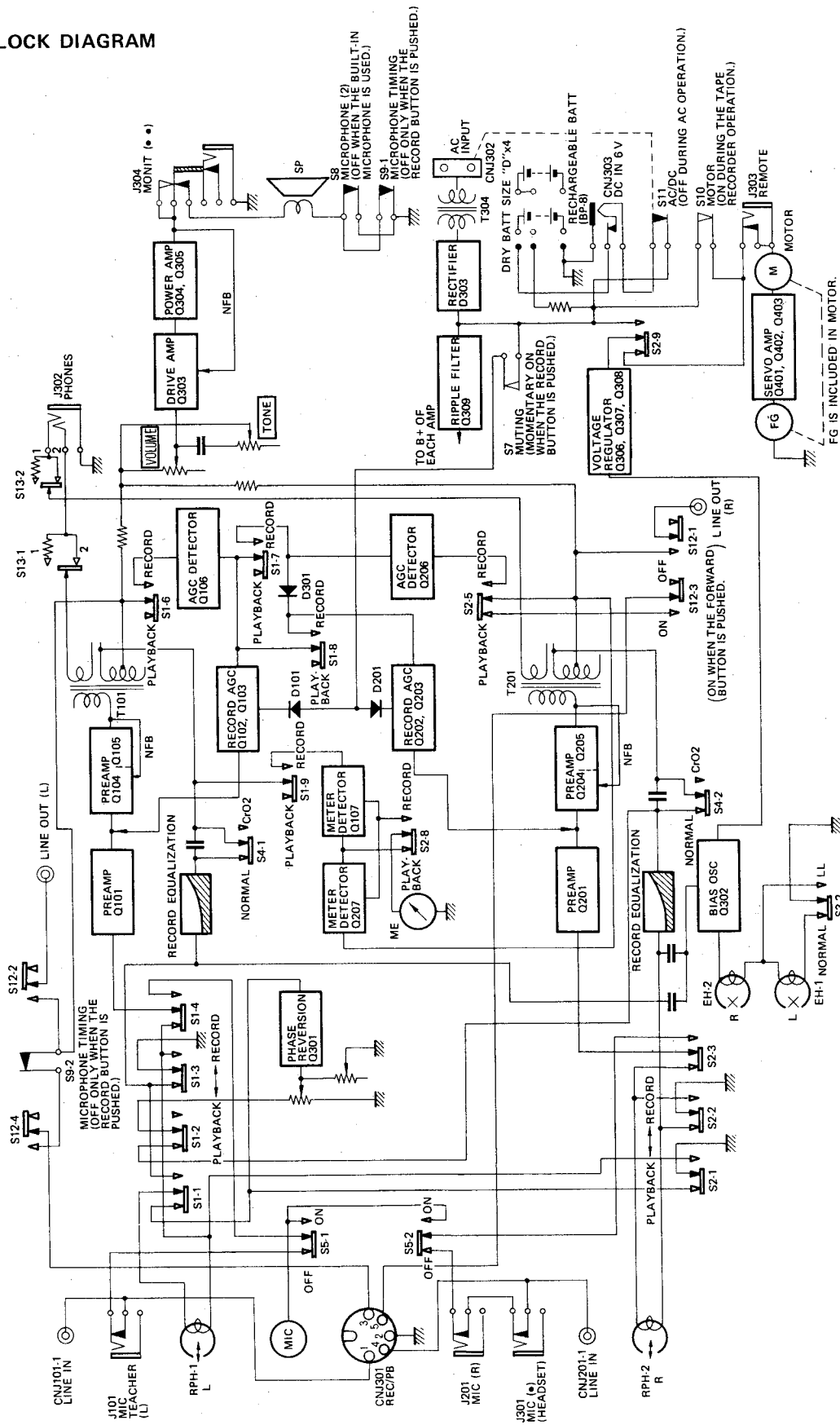
SONY®

SERVICE MANUAL

1443

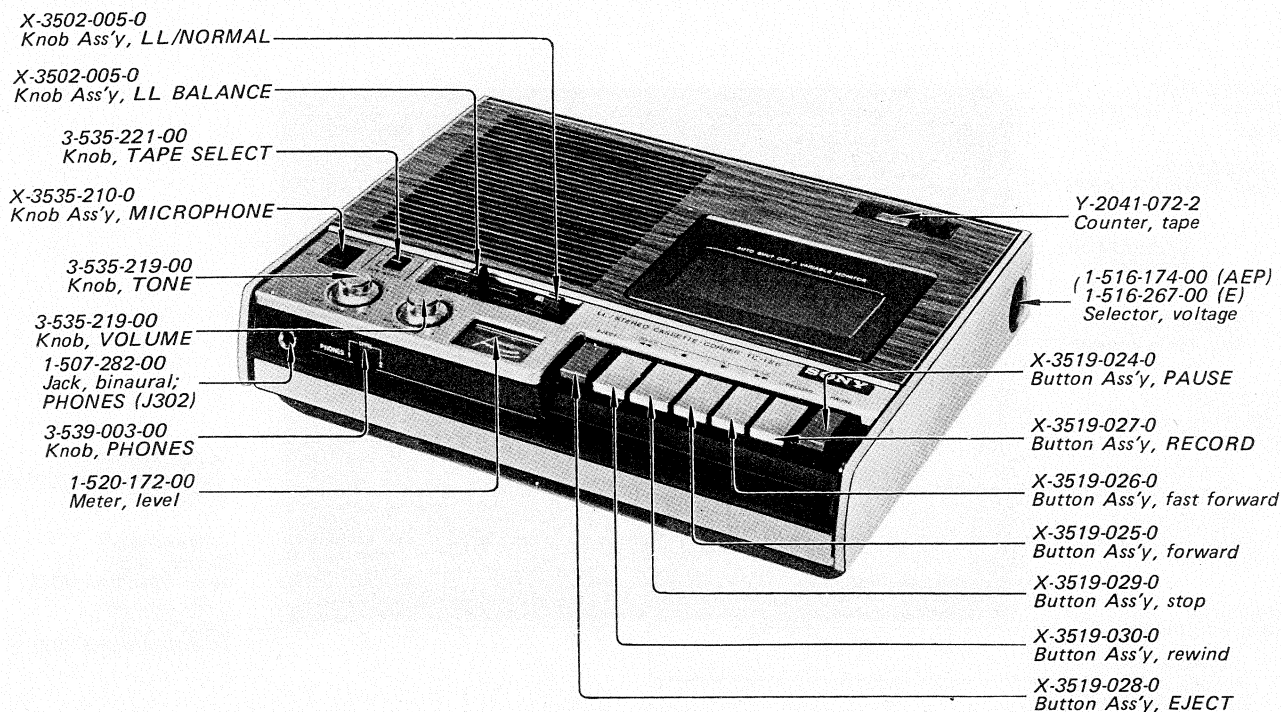
SECTION 1 OUTLINE

1-1. BLOCK DIAGRAM

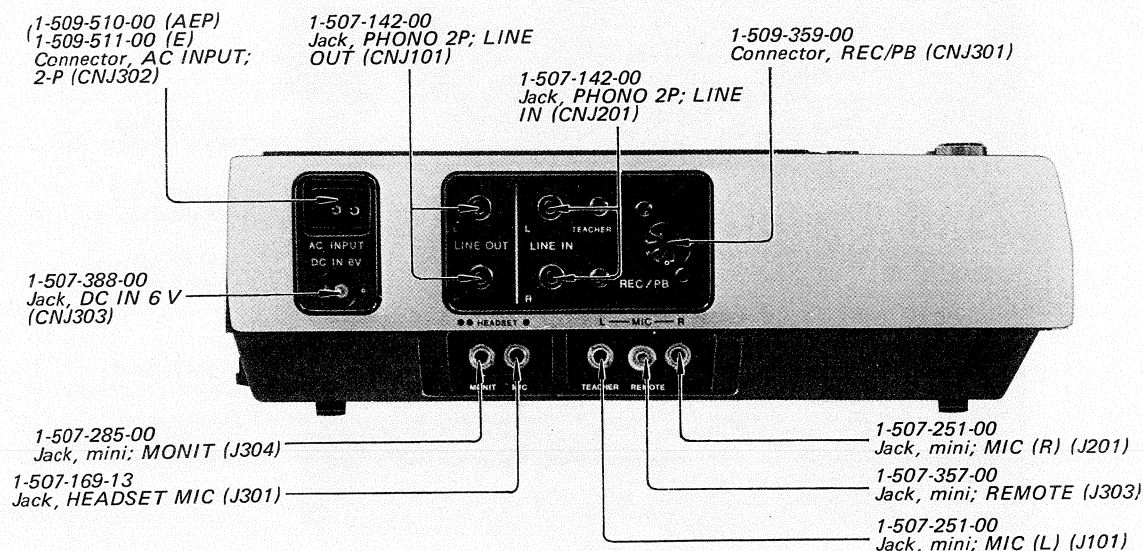


1-2. EXTERNAL VIEWS

(1)

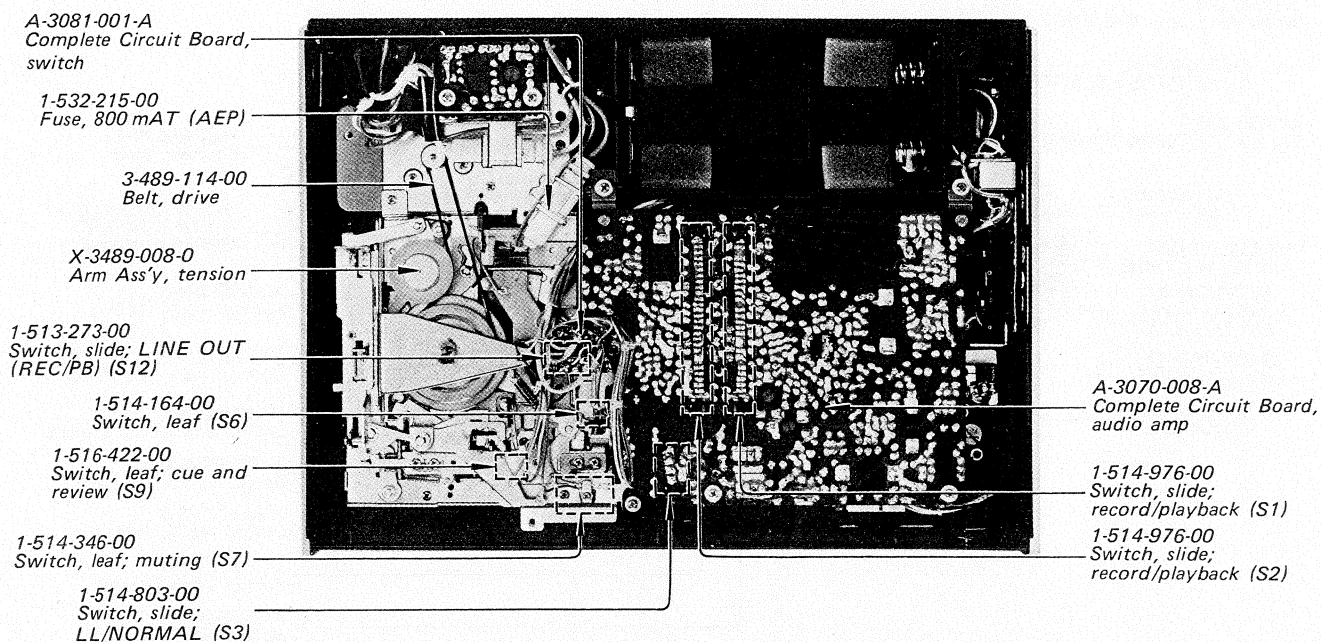


(2)

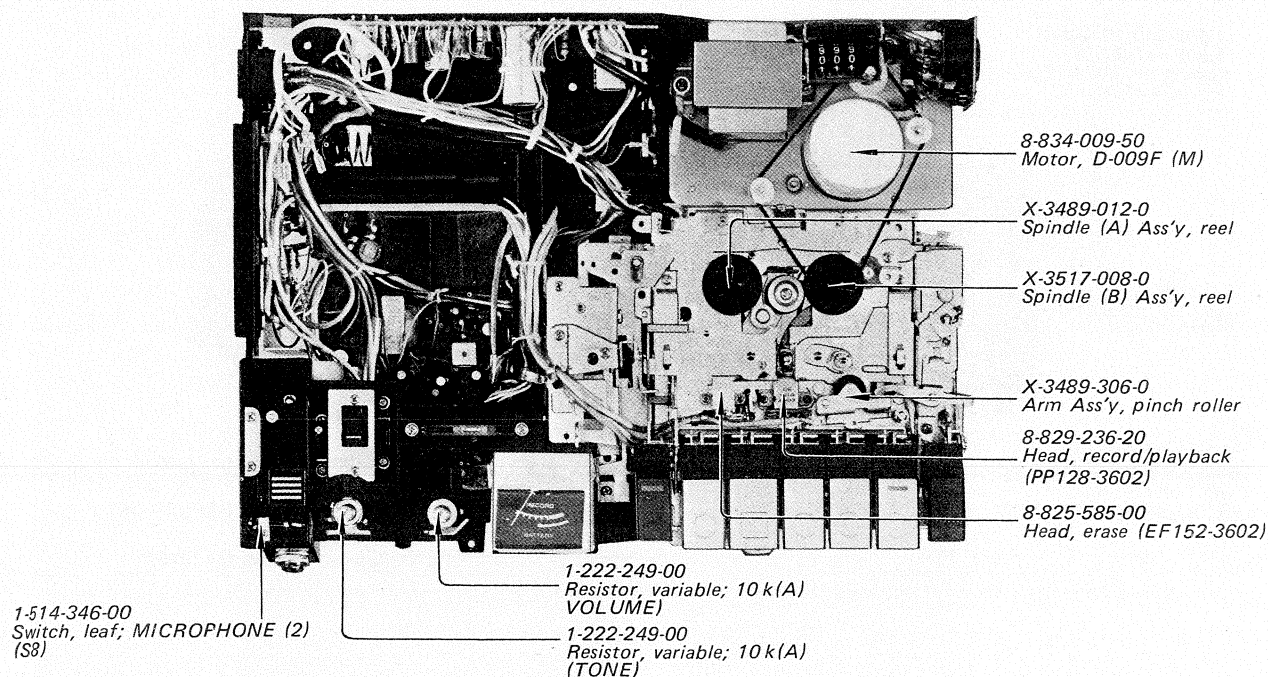


1.3. INTERNAL VIEWS

(1)



(2)

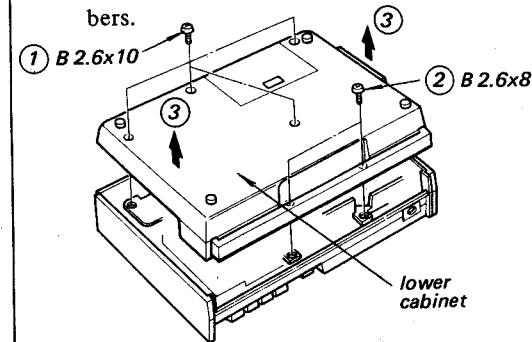


SECTION 2 DISASSEMBLY AND REPLACEMENT

Note: All screws are Phillips type (cross recess type) unless otherwise indicated.
(-): slotted head

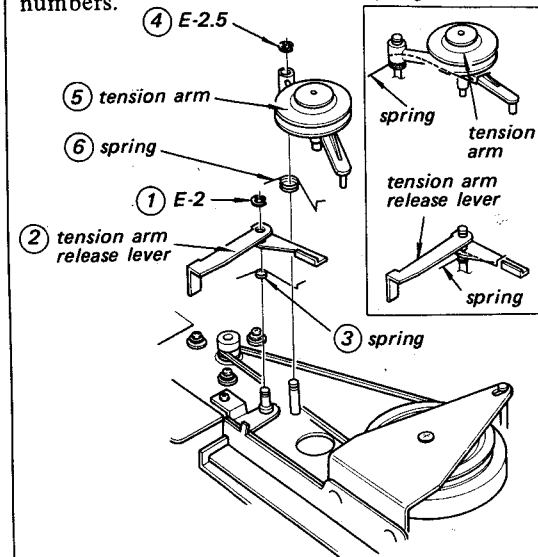
Lower Cabinet Removal

1. Take off the battery.
2. Remove the cabinet according to circled numbers.



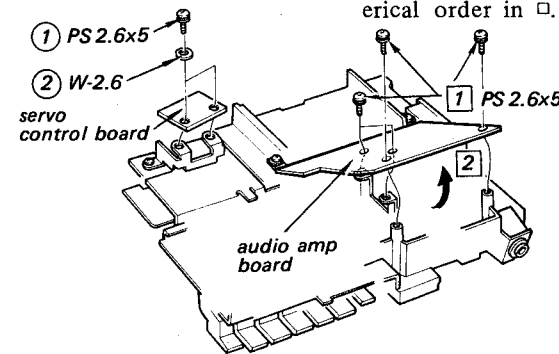
Tension Arm Removal

Remove the tension arm according to circled numbers.



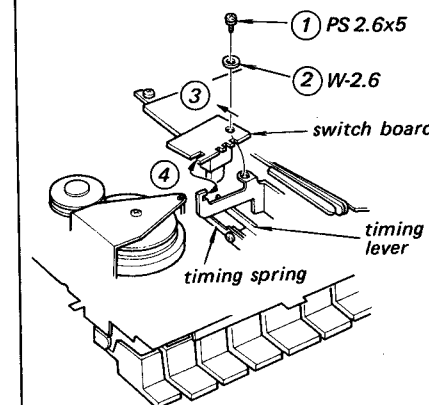
Complete Circuit Board Removal

Servo control circuit board ... Remove it by following in the numerical order in ○.
Audio amp circuit board ... Remove it by following in the numerical order in □.



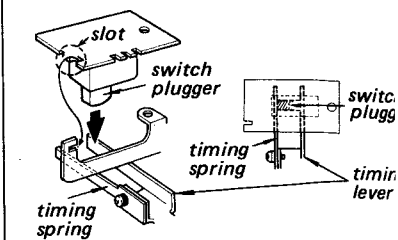
Switch Board Removal

Remove the switch board according to circled numbers.



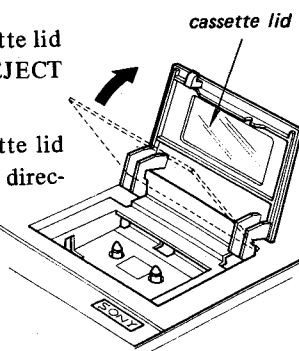
Switch Board Installation

1. Insert the switch plugger between timing lever and timing spring as shown.
2. Attach the switch board as shown.



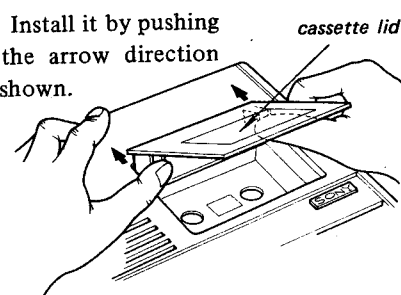
Cassette Lid Removal

1. Open the cassette lid by depressing EJECT button.
2. Push the cassette lid in the arrow direction as shown.



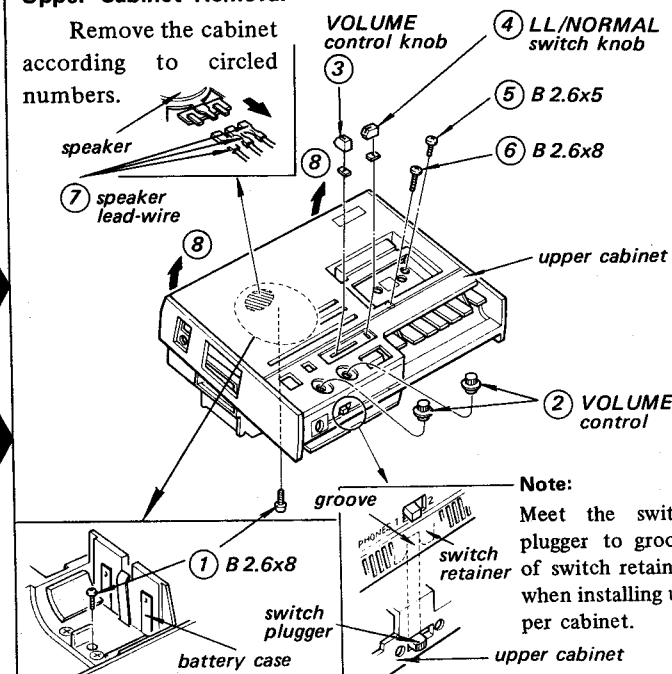
Cassette Lid Installation

Install it by pushing in the arrow direction as shown.



Upper Cabinet Removal

Remove the cabinet according to circled numbers.



Take-up Reel Spindle, Supply Reel Spindle, Motor and Idler Ass'y Removal

Motor ... Remove it in the numerical order in ○.

Supply

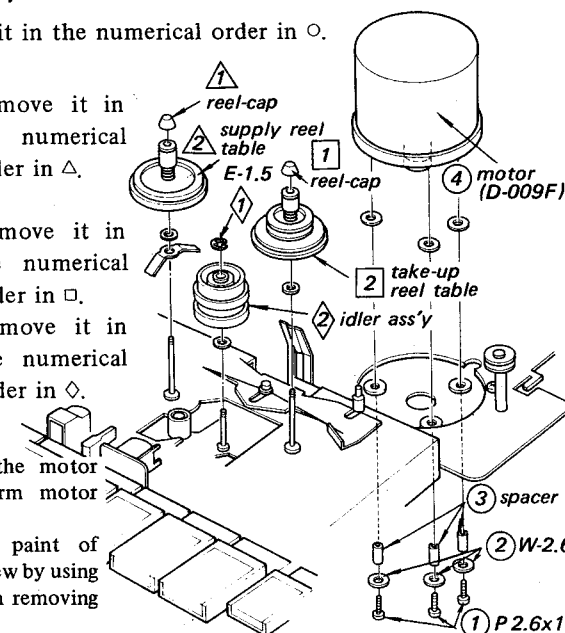
reel spindle ... Remove it in the numerical order in △.

Take-up reel spindle ... Remove it in the numerical order in □.

Idler Ass'y ... Remove it in the numerical order in ◇.

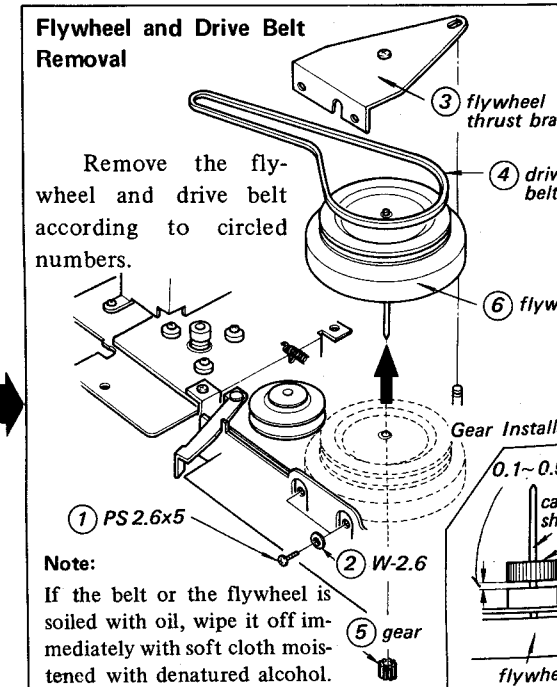
Note:

- 1) After completing the motor replacement, perform motor speed adjustment.
- 2) Remove the lock paint of motor pulley set-screw by using soldering iron, when removing motor pulley.



Flywheel and Drive Belt Removal

Remove the flywheel and drive belt according to circled numbers.



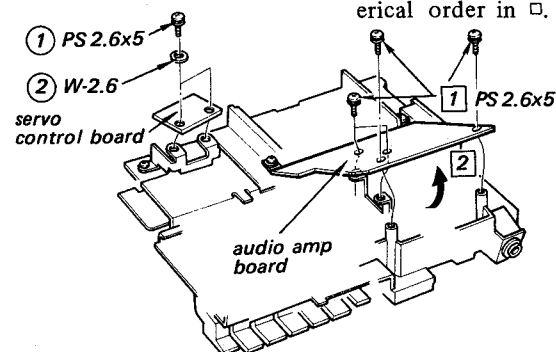
Note:

If the belt or the flywheel is soiled with oil, wipe it off immediately with soft cloth moistened with denatured alcohol.

Complete Circuit Board Removal

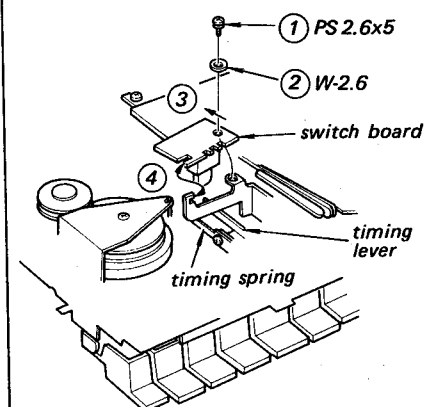
Servo control circuit board . . . Remove it by following in the numerical order in ○.

Audio amp circuit board Remove it by following in the numerical order in □.



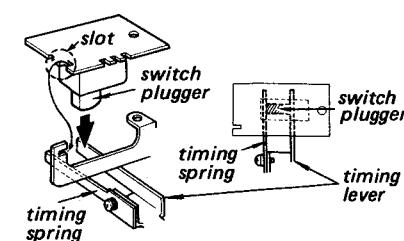
Switch Board Removal

Remove the switch board according to circled numbers.



Switch Board Installation

1. Insert the switch plugger between timing lever and timing spring as shown.
2. Attach the switch board as shown.



Take-up Reel Spindle, Supply Reel Spindle, Motor and Idler Ass'y Removal

Motor Remove it in the numerical order in ○.

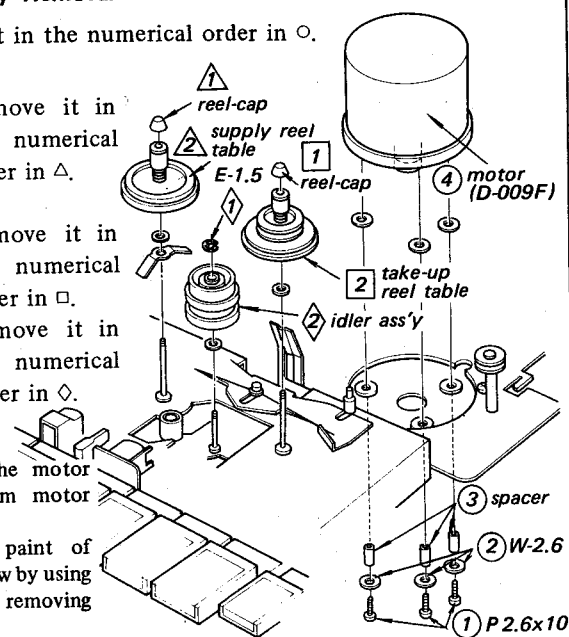
Supply
reel spindle . . . Remove it in
the numerical
order in Δ .

Take-up
reel spindle . . . Remove it in
the numerical
order in □.

Idler Ass'y Remove it in the numerical order in \diamond .

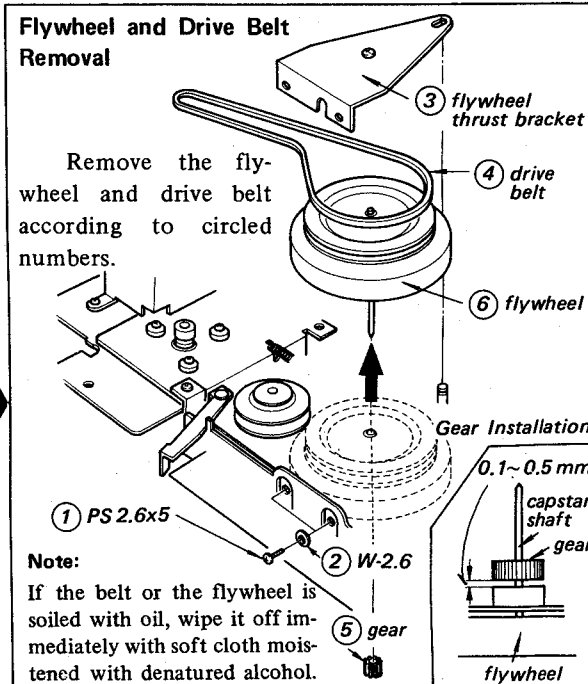
Note:

- 1) After completing the motor replacement, perform motor speed adjustment.
- 2) Remove the lock paint of motor pulley set-screw by using soldering iron, when removing motor pulley.



Flywheel and Drive Belt Removal

Remove the fly-wheel and drive belt according to circled numbers.



MEMO

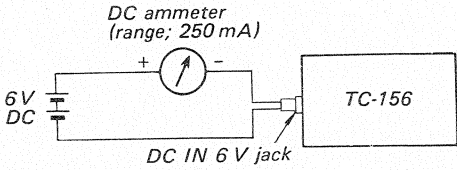
- 7 -

SECTION 3
MECHANICAL ADJUSTMENTS

FLYWHEEL THRUST PLAY ADJUSTMENT

— Playback Mode —

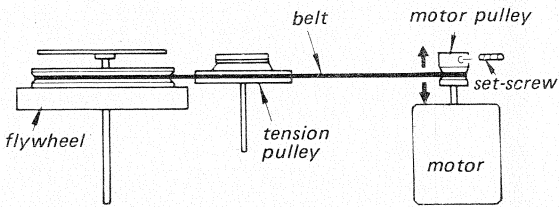
1. Loosen the thrust screw for sufficient flywheel play.
2. Tighten the screw until current suddenly increases, then loosen the screw 90 degrees.
3. Apply locking compound to the screw.



MOTOR PULLEY HEIGHT ADJUSTMENT

— Stop Mode —

Loosen the set-screw, and adjust the height of motor pulley so that belt is straight.

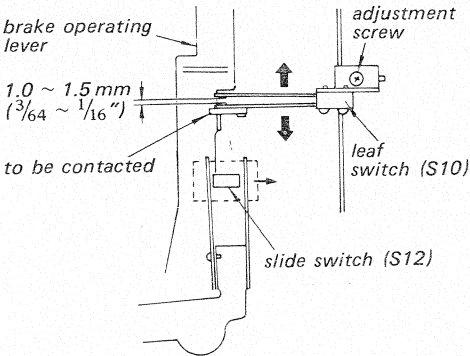


POWER SWITCH POSITION ADJUSTMENT

— Stop Mode —

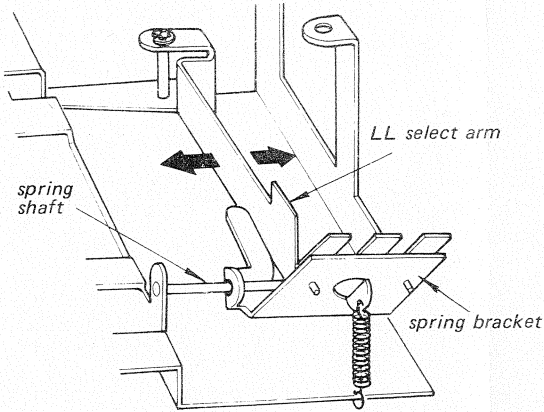
1. Loosen the adjustment screw, and adjust the position of leaf switch (S10) to have the specified contact separation.
2. When slowly depressing the forward button, check to see that the slide switch (S12) is switched over after leaf switch has been closed.

Note: After completing the adjustment, apply locking compound to adjustment screw.



LL SELECT ARM ADJUSTMENT

1. Switch the LL select lever to LL and NORMAL.
2. Adjust by bending the LL select arm so that the shaft-lengthwise play of the spring bracket is the same in LL mode and in NORMAL mode.

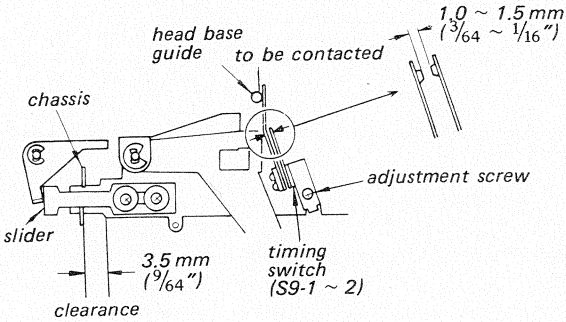


TIMING SWITCH POSITION ADJUSTMENT

— Stop Mode —

When slowly depressing the record button for the specified clearance, adjust the position of timing switch to have the specified contact separation.

Note: After completing the adjustment, apply locking compound to adjustment screw.

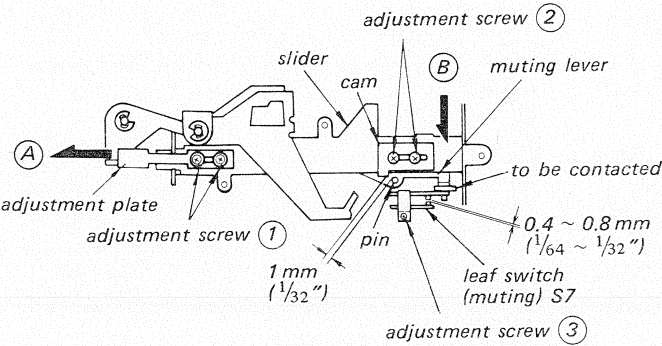


MUTING SWITCH POSITION ADJUSTMENT

— Stop Mode —

1. Push the adjustment plate to the full in the direction shown by the arrow (A), and tighten it with adjustment screws (1).
2. Loosen the adjustment screws (2), and adjust the position of cam for the specified clearance.
3. Loosen the adjustment screw (3), and adjust the position of leaf switch (S7) while pushing the slider in the direction shown by the arrow (B) so that muting lever pushes the leaf switch to have the specified contact separation.

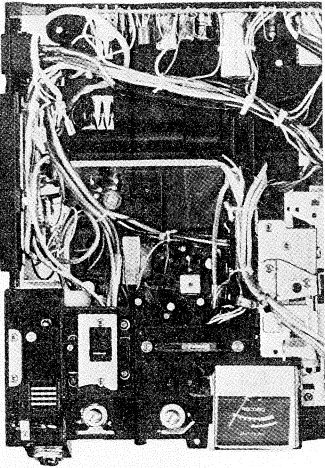
Note: After completing the adjustment, apply locking compound to adjustment screws (1), (2), and (3).



PINCH ROLLER PRESSURE MEASUREMENT

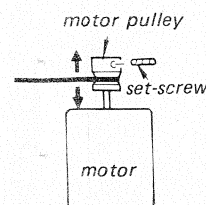
— Playback Mode —

1. Check to see that capstan is parallel to pinch roller.
2. Push pinch roller away from the capstan using tension gauge, as shown by the arrow (A). Allow pinch roller to return slowly. The pressure (tension) should be measured at the point where the pinch roller just contacts the capstan. If necessary, adjust pinch roller pressure by bending spring.



STMENT

ust the height of
t.

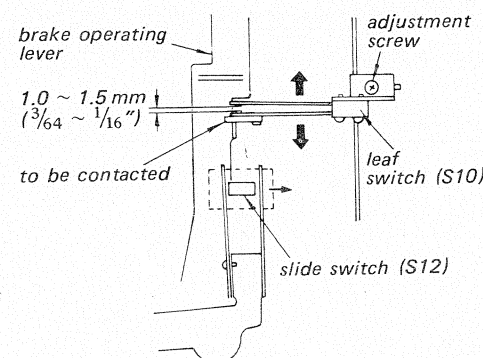


POWER SWITCH POSITION ADJUSTMENT

— Stop Mode —

1. Loosen the adjustment screw, and adjust the position of leaf switch(S10) to have the specified contact separation.
2. When slowly depressing the forward button, check to see that the slide switch(S12) is switched over after leaf switch has been closed.

Note: After completing the adjustment, apply locking compound to adjustment screw.



Fast Forward, Forward and Rewind Torque

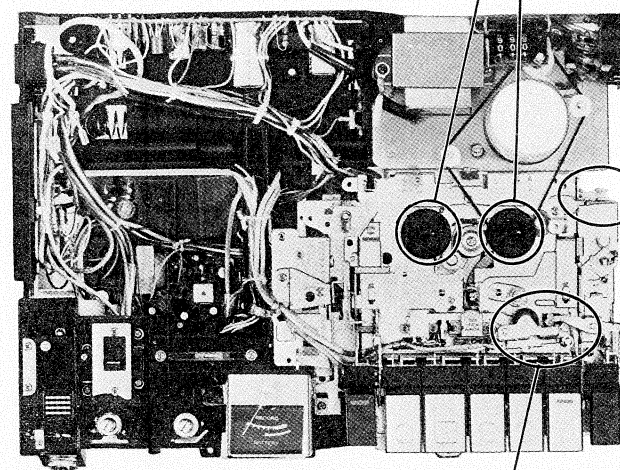
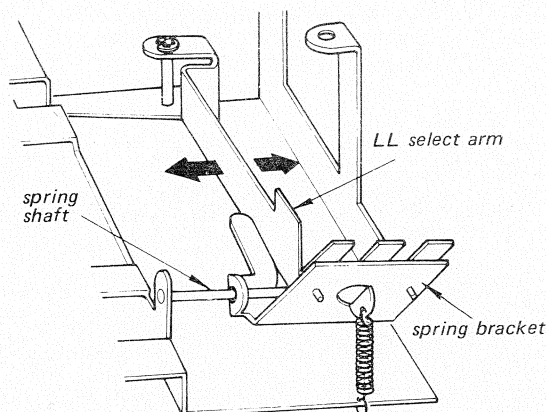
Mode	Torque meter	Meter reading
Forward	* CQ101	30 ~ 50 g·cm
Fast Forward	* CQ201	60 ~ 140 g·cm
Rewind		

* SONY cassette type torque meter

Model	Part No.
CQ101	Y-20926-01-1
CQ201	Y-20926-11-1

LL SELECT ARM ADJUSTMENT

1. Switch the LL select lever to LL and NORMAL.
2. Adjust by bending the LL select arm so that the shaft-lengthwise play of the spring bracket is the same in LL mode and in NORMAL mode.



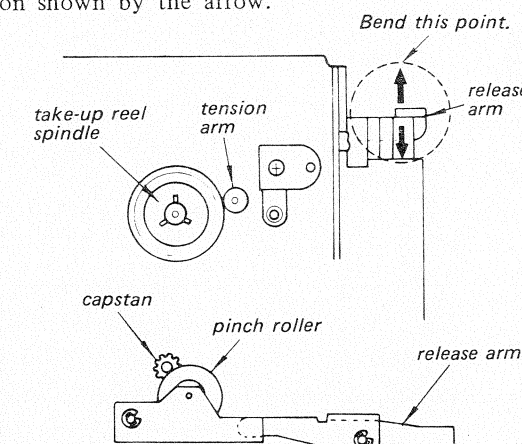
PAUSE TIMING CHECK

— Playback Mode —

1. When depressing the PAUSE button, check to see that
 - a) pinch roller releases from capstan.
 - b) tension arm releases from take-up reel spindle.
2. When releasing the PAUSE button, check to see that
 - a) tension arm contacts take-up reel spindle.
 - b) pinch roller contacts capstan.

Note: Above functions a) and b) may be found in the same time.

If necessary, bend the release arm in the direction shown by the arrow.

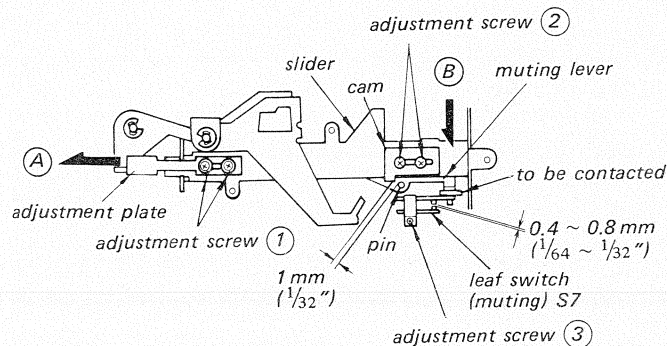


MENT

e full in the
, and tighten

), and adjust
ied clearance.
, and adjust
while pushing
by the arrow
ie leaf switch
aration.

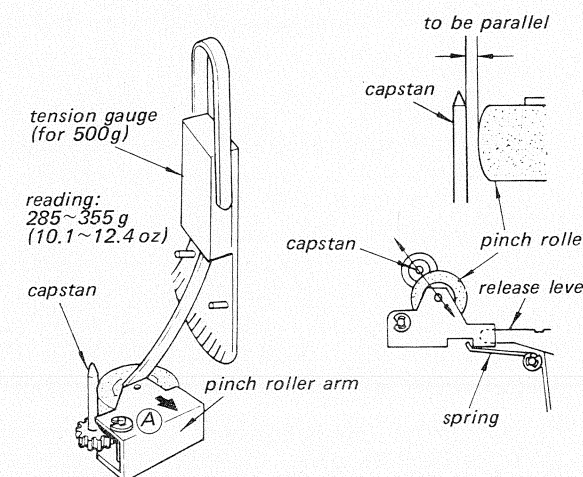
it, apply
it screws



PINCH ROLLER PRESSURE MEASUREMENT

— Playback Mode —

1. Check to see that capstan is parallel to pinch roller.
2. Push pinch roller away from the capstan using tension gauge, as shown by the arrow A. Allow pinch roller to return slowly. The pressure (tension) should be measured at the point where the pinch roller just contacts the capstan. If necessary, adjust pinch roller pressure by bending spring.



SECTION 4

ELECTRICAL ADJUSTMENTS AND MEASUREMENTS

PRECAUTION

1. Clean the following parts with alcohol moistened swab:
 - Record/playback head
 - Erase head
 - Capstan
 - Pinch roller
 - Rubber belts
 - Idlers
2. Demagnetize record/playback head with a head demagnetizer.
(Do not use magnetized screwdriver for adjustments).
3. After completing the adjustments, apply locking compound to adjustment parts.
4. Adjustments should be performed in the order listed in this service manual.
5. Adjustments and measurements should be performed with rated power supply voltage unless otherwise specified.

Test Equipment/Tools Required

audio oscillator (af osc)
 VTVM
 DC ammeter
 DC voltmeter
 monaural cassette-corder for chromium dioxide tape
 digital frequency counter
 or speed checker (SONY LFM-30)
 400 Hz bandpass filter
 resistors 300 Ω , 600 Ω , 100 k Ω , 8 Ω (4 W)
 attenuator
 wow meter
 distortion meter
 SONY test tapes
 P-4-A81 (6.3 kHz, -10 dB)
 P-4-L81 (333 Hz, 0 dB)
 SPC-4 (1 kHz, 0 dB)
 WS-48 (3 kHz, 0 dB)
 blank tape cassette (completely erased)
 normal
 chromium dioxide

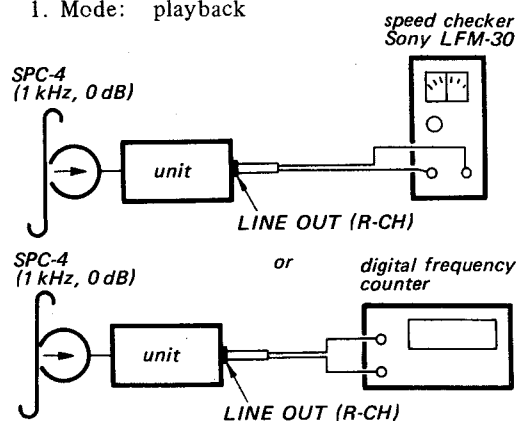
1. Tape Speed Adjustment

Settings:

LL/NORMAL switchNORMAL
 TAPE SELECT switchNORMAL
 Power source6 V DC

Procedure:

1. Mode: playback



Adjust R402 for 1000 Hz reading on the frequency counter or for 0 % on the speed checker.

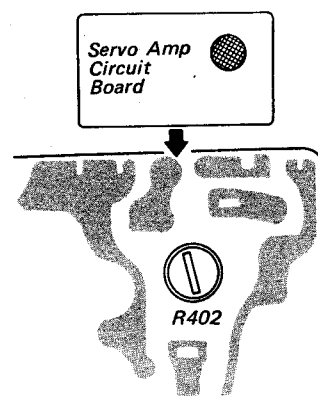
Specifications:

1.

Speed checker	Digital frequency counter
-2.5 ~ +3%	975 ~ 1030 Hz

2. Frequency difference between beginning and end of tape should be within 1% (10 Hz).

Adjustment Location:



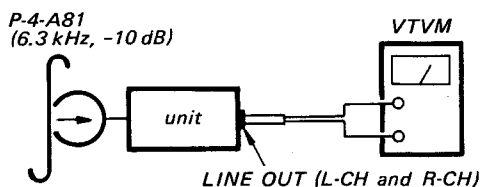
2. Record/Playback Head Azimuth Adjustment

Settings:

LL/NORMAL switch NORMAL
TAPE SELECT switch NORMAL

Procedure:

1. Mode: playback



Adjust the adjusting screw (Fig. B) to obtain maximum reading on the VTVM.

Notes:

- a) A few peaks may appear as illustrated in Fig. A, take the biggest peak.
- b) If the peak values for L-CH and R-CH are not obtained in the same azimuth angle, take the mid angle between them and the deviation should be within 1 dB.

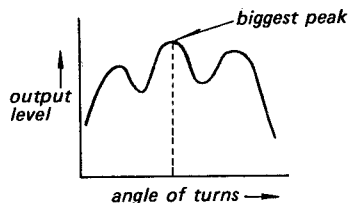


Fig. A

Adjustment Location:

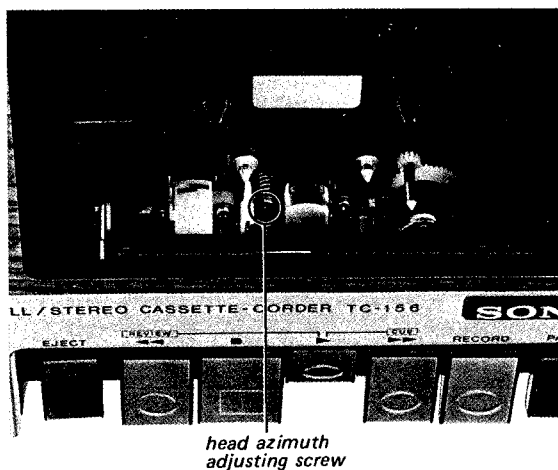


Fig. B

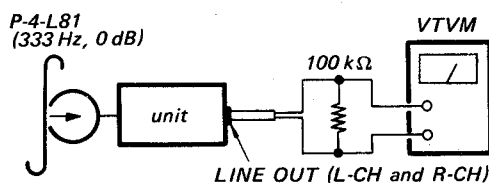
3. Playback Level Adjustment

Settings:

LL/NORMAL switch NORMAL
TAPE SELECT switch NORMAL

Procedure:

1. Mode: playback



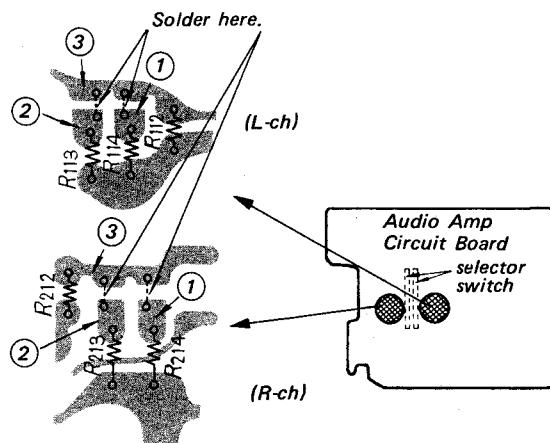
Select the resistor R113, R213 and R114, R214 for 2 dB (0.95 V) reading on the VTVM.

Note: In case the LINE OUTput level is higher than the specified value, solder the point ② and ③.
In case the LINE OUTput level is lower than the specified value, solder the point ① and ③.

Specifications:

- (1) 2 dB \pm 2 dB (0.775 ~ 1.2 V)
- (2) Level difference between L-CH and R-CH should be within 3 dB.

Adjustment Location:



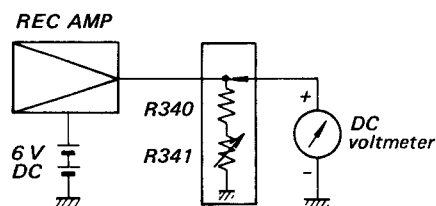
4. B+ Voltage Adjustment for Record Bias Oscillator

Settings:

LL/NORMAL switch.....NORMAL
TAPE SELECT switch.....NORMAL

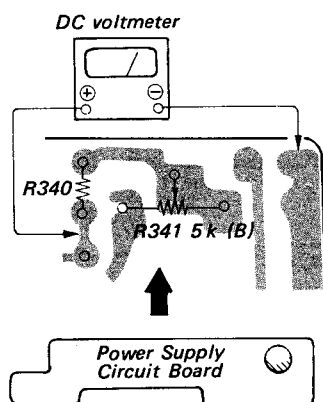
Procedure:

1. Mode: record



Adjust R341 for $4.5\text{ V} \pm 0.1\text{ V}$ reading on the voltmeter.

Adjustment Location:



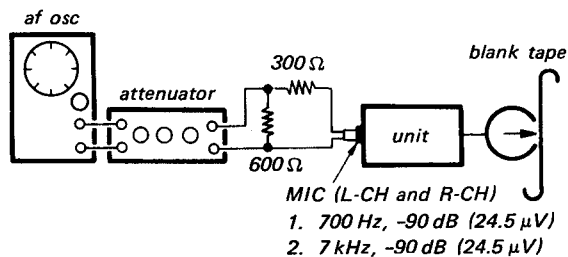
5. Record Bias Adjustment

Settings:

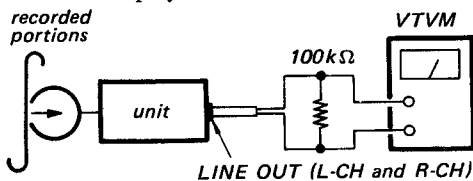
LL/NORMAL switch.....NORMAL
TAPE SELECT switch.....NORMAL

Procedure:

1. Mode: record



2. Mode: playback



Be sure that the level difference between 7 kHz signal and 700 Hz signal is within the specified value.

Specifications:

(1)	Frequency	Level Difference
	700Hz	
	7 kHz	0 dB $\pm \frac{3}{4}$ dB

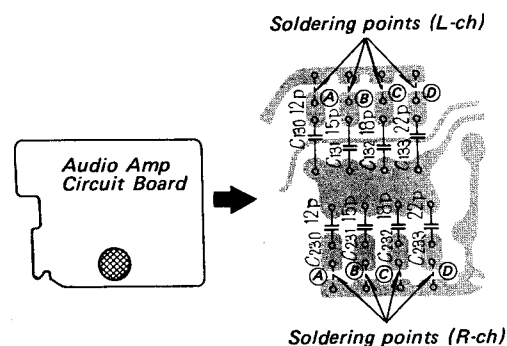
- (2) Level difference between the L-CH and R-CH should be within 3 dB.

Note: If necessary, adjust by soldering points (A), (B), (C) or (D).

In case the output level at 7 kHz is higher than at 700 Hz, increase capacitance value.

In case the output level at 7 kHz is lower than at 700 Hz, decrease capacitor capacitance value.

Adjustment Location:



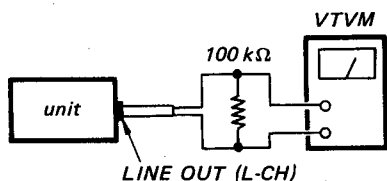
6. Trap Coil Adjustment

Settings:

LL/NORMAL switch.....LL
TAPE SELECT switch.....NORMAL

Procedure:

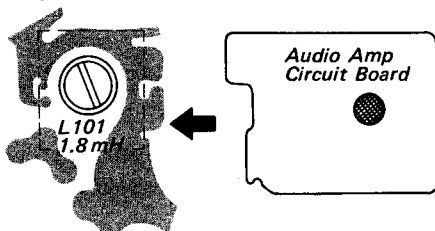
1. Mode: record



Adjust the coil L101 for minimum reading on the VTVM.

Specification: less than -20 dB (77 mV)

Adjustment Location:



7. Battery Indicator Calibration

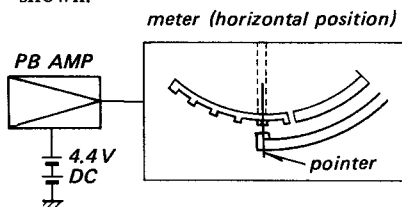
Settings:

TONE control.....HIGH max
VOLUME control.....MIN
Power source.....4.4 V DC

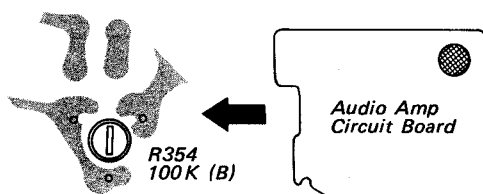
Procedure:

1. Mode: playback

Adjust R354 so that pointer indicates as shown.

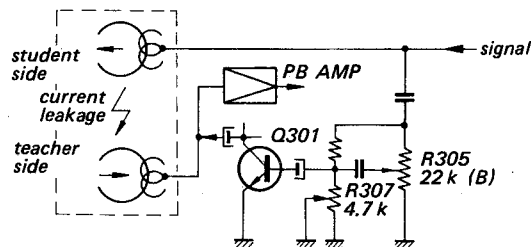


Adjustment Location:



8. Cross Talk Canceling Adjustment

Note: The purpose of this adjustment is to cancel current leakage from student side (record) to teacher side (playback).

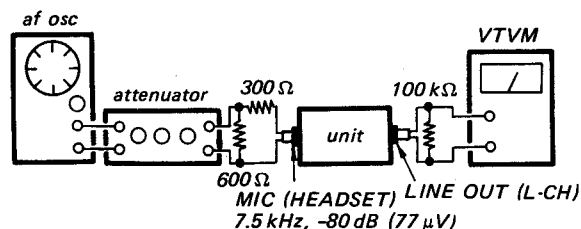


Settings:

LL/NORMAL switch.....LL
TAPE SELECT switch.....NORMAL

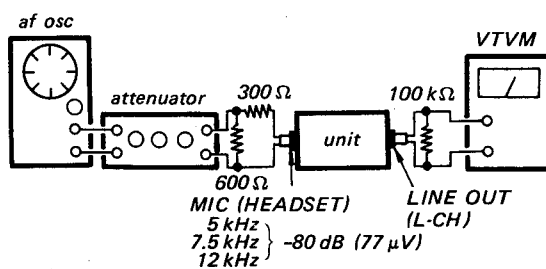
Procedure:

1. Mode: record



Adjust R305 and R307 for minimum reading on the VTVM.

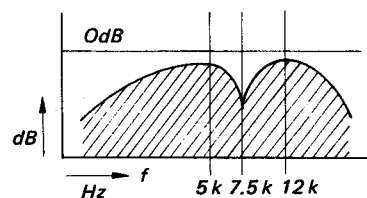
2. Mode: record



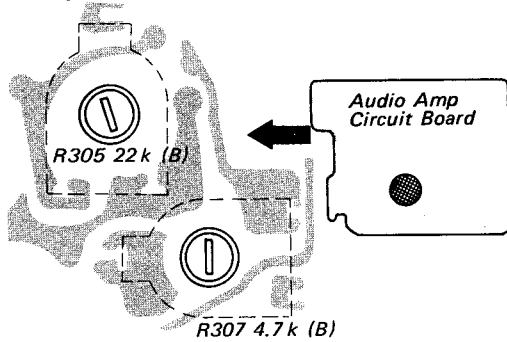
Be sure that the LINE OUTput level is within the specified value.

Specifications:

- a) less than 0 dB (0.775 V) at 5 kHz and 12 kHz signals
- b) less than -5 dB (0.44 V) at 7.5 kHz signal.



Adjustment Location:



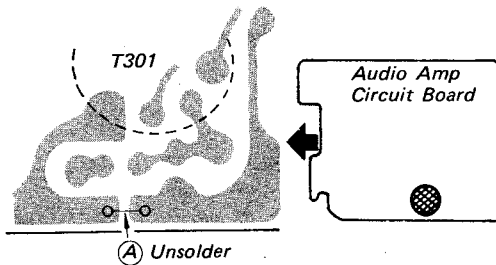
9. AGC Stereo Balance Adjustment

Settings:

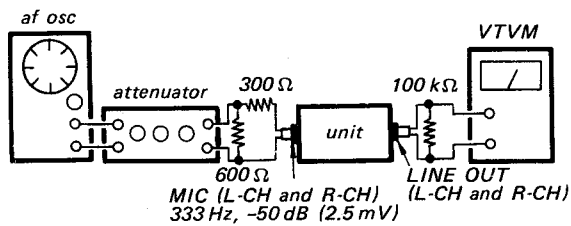
LL/NORMAL switch NORMAL

Procedure:

1. Unsolder the point (A).



2. Mode: record



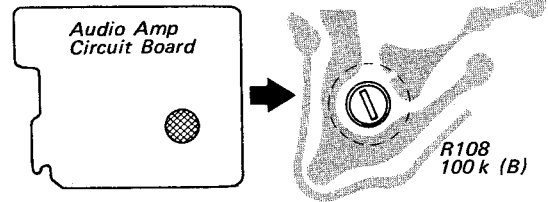
Adjust R108 to obtain the same output level for both L-CH and R-CH.

Specifications:

- a) 2.5 dB \pm 2 dB (0.82 ~ 1.3 V)
- b) level difference between the L-CH and R-CH should be within 0.5 dB.

3. After completing the adjustment, solder the point (A).

Adjustment Location:



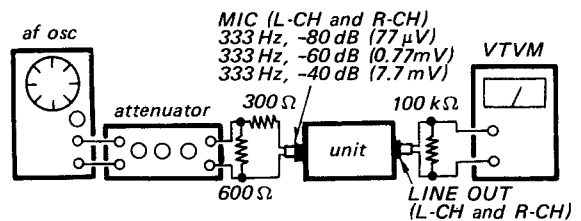
10. AGC Level Measurement

Settings:

LL/NORMAL switch NORMAL

Procedure:

1. Mode: record



Be sure that LINE OUTput level is as specified.

Specifications:

MIC input level	LINE OUTput level
-80 dB (77 μ V)	-8 dB \pm 2 dB (0.25 ~ 0.39 V)
-60 dB (0.77 mV)	1 dB \pm 2 dB (0.69 ~ 1.1 V)
-40 dB (7.7 mV)	4 dB \pm $\frac{3}{2}$ dB (0.95 ~ 1.7 V)

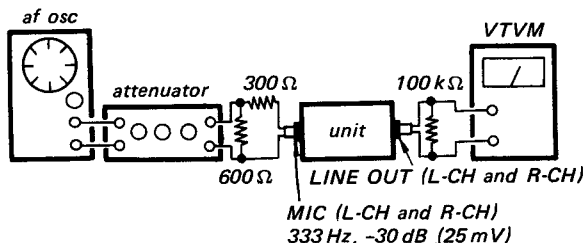
11. AGC Recovery Time Measurement

Settings:

LL/NORMAL switch NORMAL

Procedure:

1. Mode: record



2. Suddenly decrease the input signal to -60 dB (0.77 mV).
3. Measure the recovery time while the output level increases 10 dB from -30 dB (25 mV) to -20 dB (77 mV).

Specification: 20 to 120 seconds

12. Playback Signal-to-Noise Ratio Measurement

Settings:

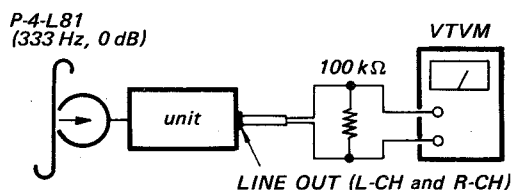
LL/NORMAL switch NORMAL

TAPE SELECT switch NORMAL

Power source 6 V DC and rated AC voltage

Procedure:

1. Mode: playback



2. Read the L-CH and R-CH LINE OUTput levels on the VTVM.
3. When depress the PAUSE button, read the noise level on the VTVM, and make sure that difference between the noise level and the level at step 2.

Specifications:

- (1) greater than 46 dB with battery.
- (2) greater than 42 dB with household current.

13. Overall Signal-to-Noise Ratio Measurement

Settings:

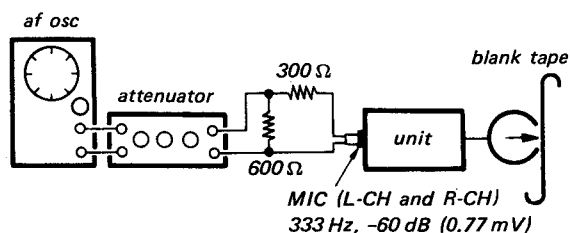
LL/NORMAL switch NORMAL

TAPE SELECT switch NORMAL

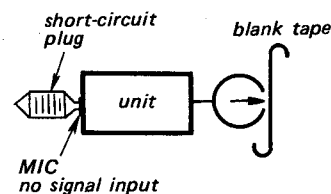
Power source 6 V DC and rated AC voltage

Procedure:

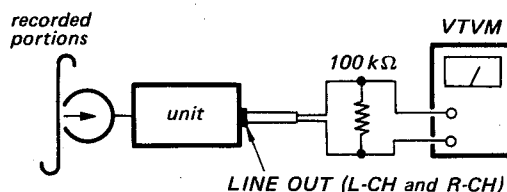
1. Mode: record



2. Mode: record



3. Mode: playback



Make sure that the level difference between the 333 Hz and no signal portions are as specified.

Specifications:

- (1) greater than 45 dB with battery
- (2) greater than 40 dB with household current.

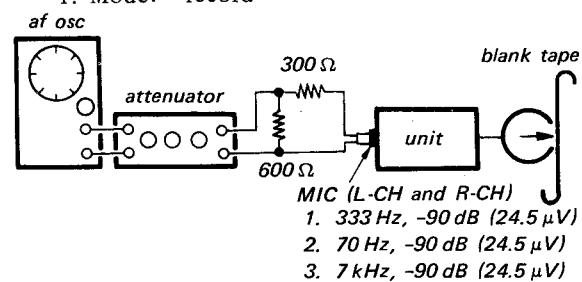
14. Overall Frequency Response Measurement

Settings:

LL/NORMAL switch NORMAL
TAPE SELECT switch NORMAL
or CrO₂

Procedure:

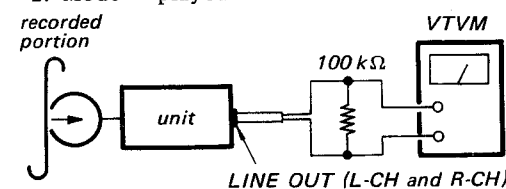
1. Mode: record



Note: Use blank tape as follows;

TAPE SELECT switch	Using cassette tape
NORMAL	normal
CrO ₂	chromium dioxide

2. Mode: playback



Be sure that the level deviation of each frequency relative to 333 Hz signal is as specified.

Specifications:

Mode	TAPE SELECT switch mode	Record signal	Playback LINE OUT signal
NORMAL record	NORMAL	70 Hz	0 dB ± 0 dB (0.19~0.775 V)
		7 kHz	0 dB ± 2 dB (0.49~0.95 V)
NORMAL playback	CrO ₂	7 kHz	0 dB ± 4 dB (0.55~1.1 V)
LL record	NORMAL	70 Hz	0 dB ± 15 dB (0.14~0.775 V)
LL playback		7 kHz	0 dB ± 2 dB (0.39~0.95 V)

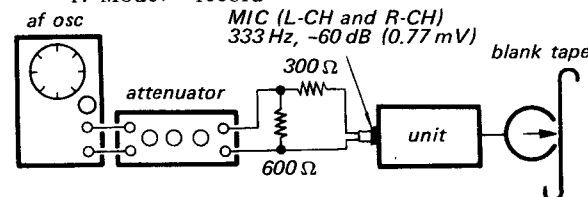
15. Overall Distortion Measurement

Settings:

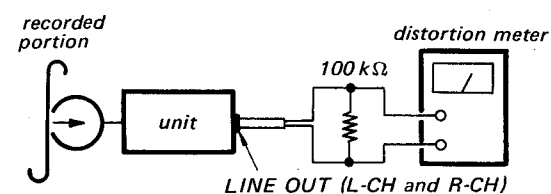
LL/NORMAL switch NORMAL
TAPE SELECT switch NORMAL

Procedure:

1. Mode: record



2. Mode: playback



Measure the distortion.

Specification: less than 4%

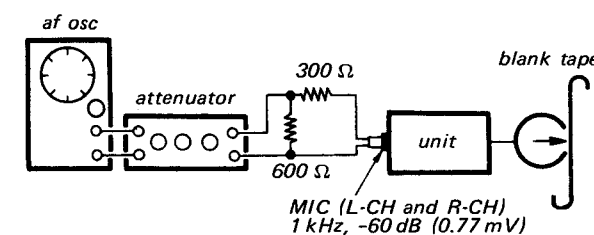
16. Overall Maximum Output Measurement

Settings:

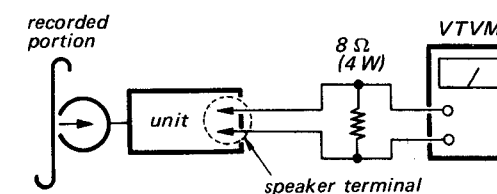
LL/NORMAL switch NORMAL
TAPE SELECT switch NORMAL
TONE control HIGH max
VOLUME control MAX
Power supply 6 V DC and
rated AC
power voltage

Procedure:

1. Mode: record



2. Mode: playback



Measure the output level.

Specification:

Power Supply	Output Level
DC	more than 11 dB (2.8 V)
AC	more than 10 dB (2.5 V)

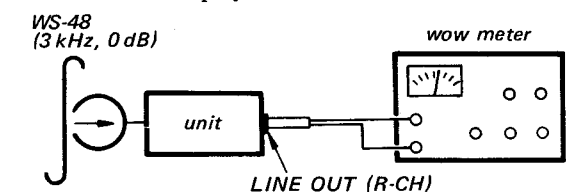
17. Wow and Flutter Measurement

Settings:

LL/NORMAL switch NORMAL
TAPE SELECT switch NORMAL

Procedure:

1. Mode: playback



Measure wow and flutter for beginning and end portions of tape (WS-48).

Specification: less than 0.34% (RMS)

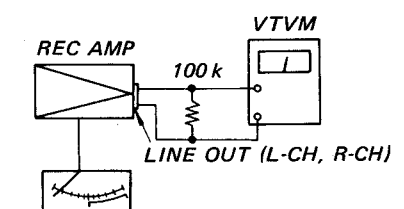
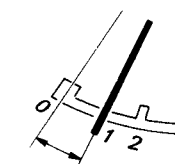
18. Bias Current Leakage Measurement

Settings:

MICROPHONE switch OFF

Procedure:

1. Mode: record (No signal)



Be sure that the L-CH and R-CH LINE OUTput levels are as specified.

Specifications:

- a) less than -12 dB (0.19 V)
- b) The level meter indication should be within "1" on the scale.

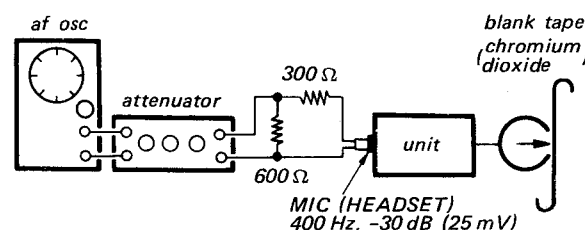
19. Erase Ratio Measurement (1)

Settings:

LL/NORMAL switch.....LL
TAPE SELECT switch.....CrO₂
LL BALANCE control.....STUDENT
max

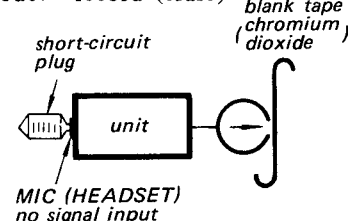
Procedure:

1. Mode: record

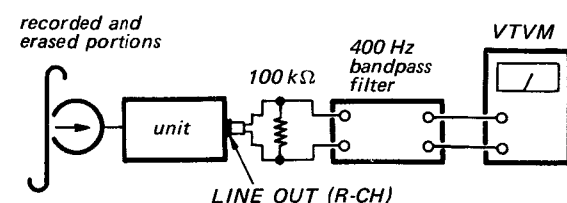


2. Rewind a half of the signal recorded portion of the tape cassette.

3. Mode: record (erase)



4. Mode: playback



Make sure that the level difference between two portions is as specified.

Specification: 60 dB or more

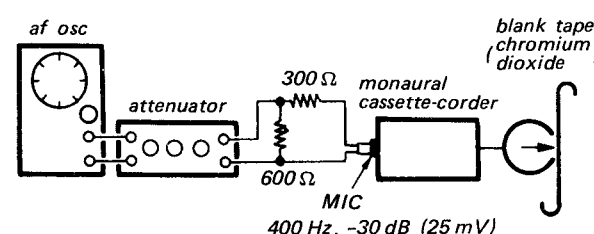
20. Erase Ratio Measurement (2)

Settings:

LL/NORMAL switch.....NORMAL
TAPE SELECT switch.....CrO₂
Prepare a monaural cassette-corder using chromium dioxide tape.

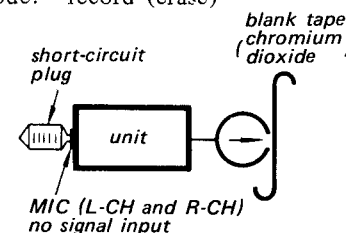
Procedure:

1. Mode: record

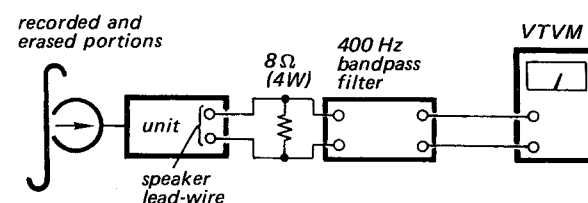


2. Rewind a half of the signal recorded portion of the tape cassette.

3. Mode: record (erase)



4. Mode: playback



Adjust the VOLUME control at signal recorded portion for 0 dB (0.775 V) reading on the VTVM, and make sure that level difference between two portions is as specified.

Specification: 60 dB or more

21. Teacher Channel Erasure Measurement

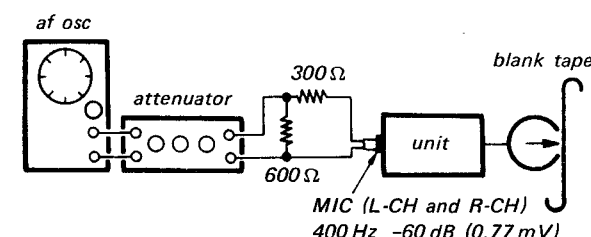
In LL record mode, the student channel is in record mode and the teacher channel in playback mode. The teacher channel is slightly erased by the erase head of the student channel. This measurement is to know how much erased the teacher channel is by adjacent erase head.

Settings:

TAPE SELECT switch.....NORMAL

Procedure:

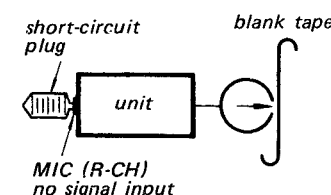
1. Mode: record
LL/NORMAL switch: NORMAL



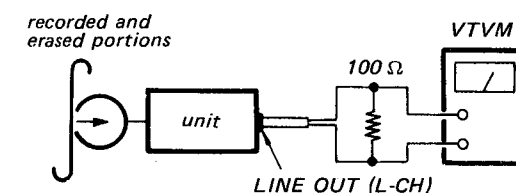
2. Rewind a half of the signal recorded portion of tape cassette.

3. Mode: record (erase)

LL/NORMAL switch: LL



4. Mode: playback



Make sure that the level difference between two portions is as specified.

Specification: less than 2 dB

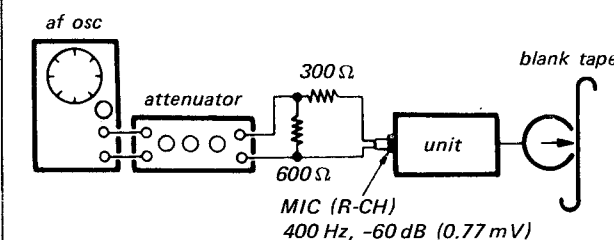
22. Cross Talk (Between Channels) Measurement

Settings:

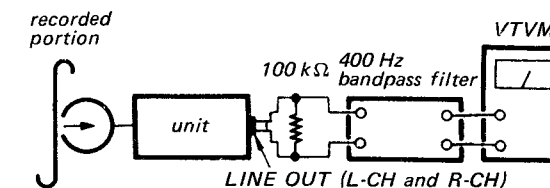
LL/NORMAL switch.....LL
TAPE SELECT switch.....NORMAL

Procedure:

1. Mode: record



2. Mode: playback



- a) Move the LL BALANCE control fully to STUDENT, and read the VTVM indication at R-CH LINE OUT.

- b) Move the LL BALANCE control fully to TEACHER, and read the VTVM indication at L-CH LINE OUT.

Make sure that the level difference between step a) and step b) is as specified.

Specification: 25 dB or more

SECTION 5 DIAGRAMS

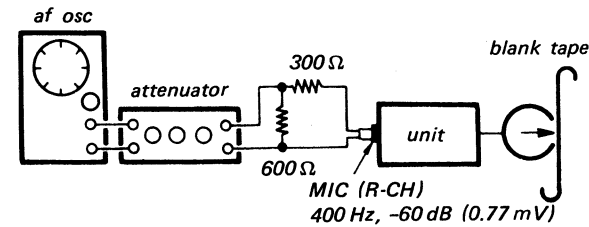
23. Cross Talk (Between Tracks) Measurement

Settings:

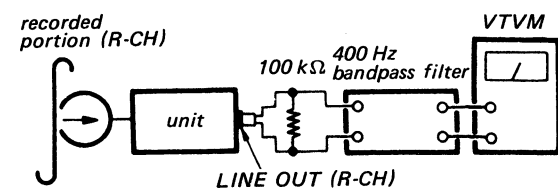
LL/NORMAL switch.....NORMAL
TAPE SELECT switch.....NORMAL

Procedure:

1. Mode: record



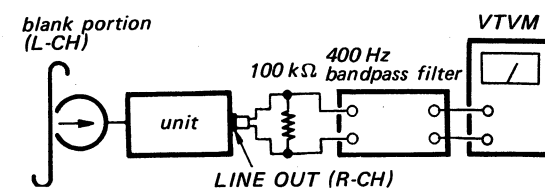
2. Mode: playback



Read the VTVM indication.

3. Mode: playback

Note: Turn over the tape cassette.



Read the VTVM indication.

4. Make sure that the level difference between step 2 and step 3 is as specified.

Specification: 55 dB or more

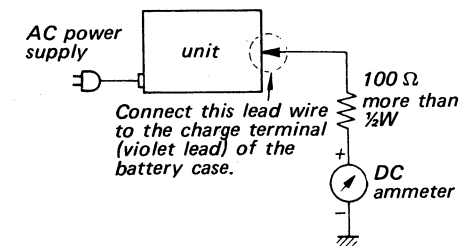
24. Charge Current Check

Settings:

POWER switch.....OFF

Procedure:

1. Test Setup

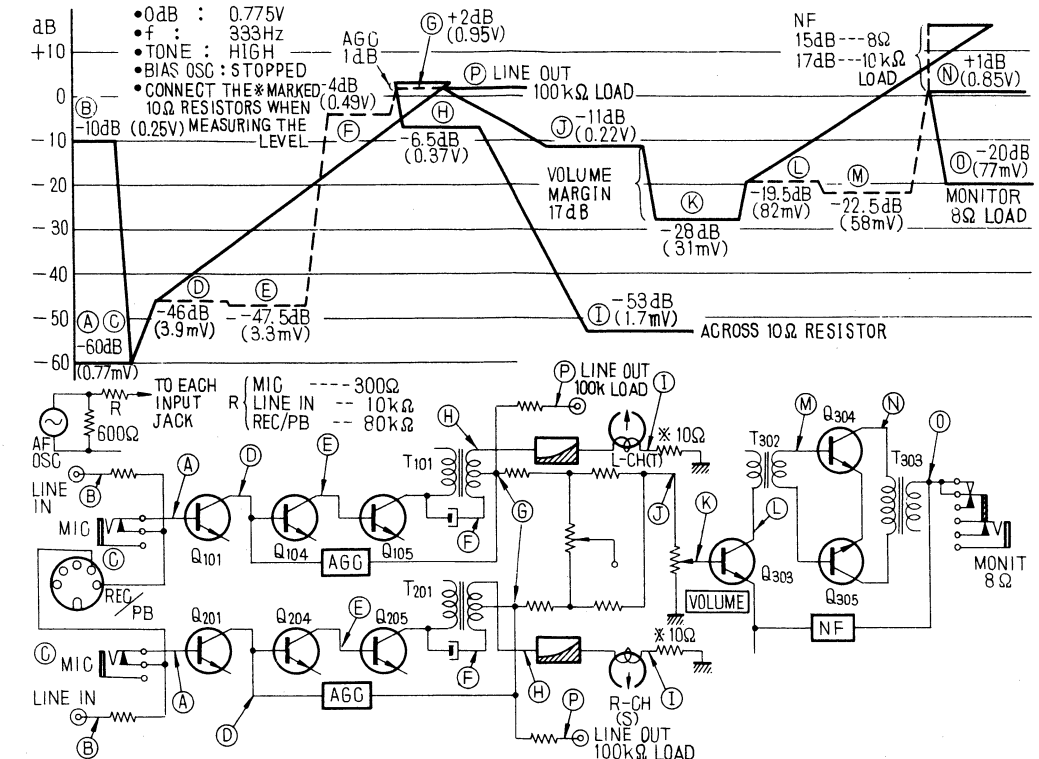


2. Make sure that the reading is as specified.

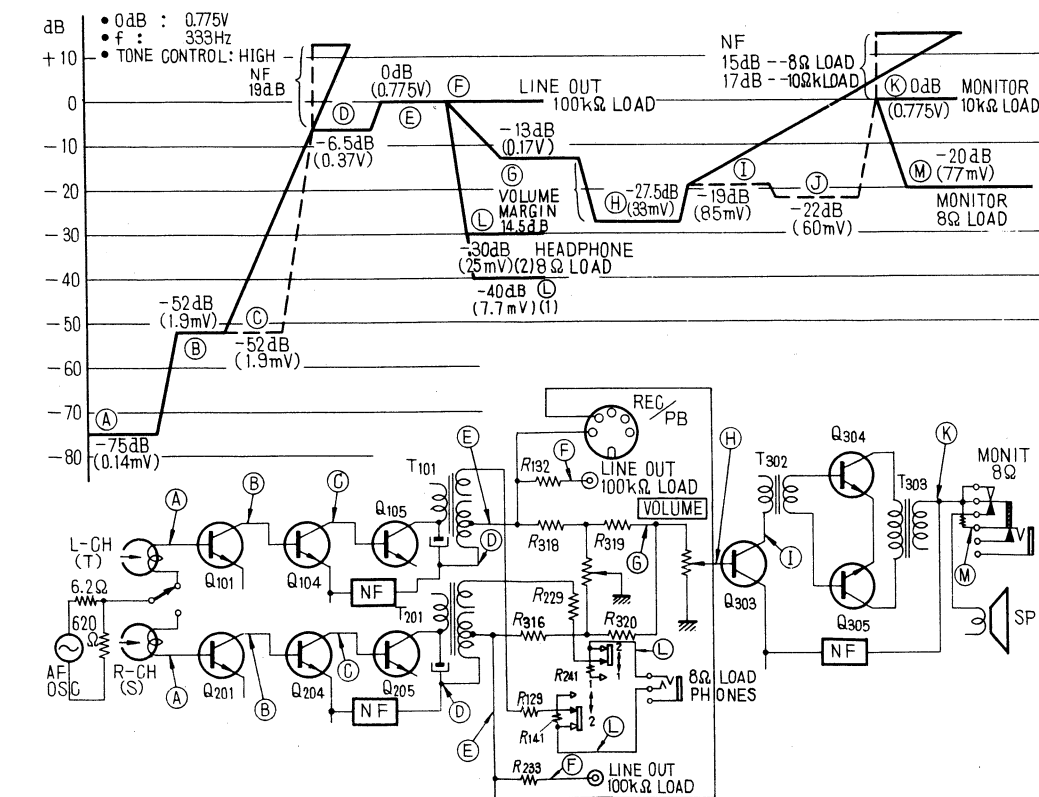
Specification: 45 ~ 75 mA.

5-1. LEVEL DIAGRAM

— NORMAL Record Mode —



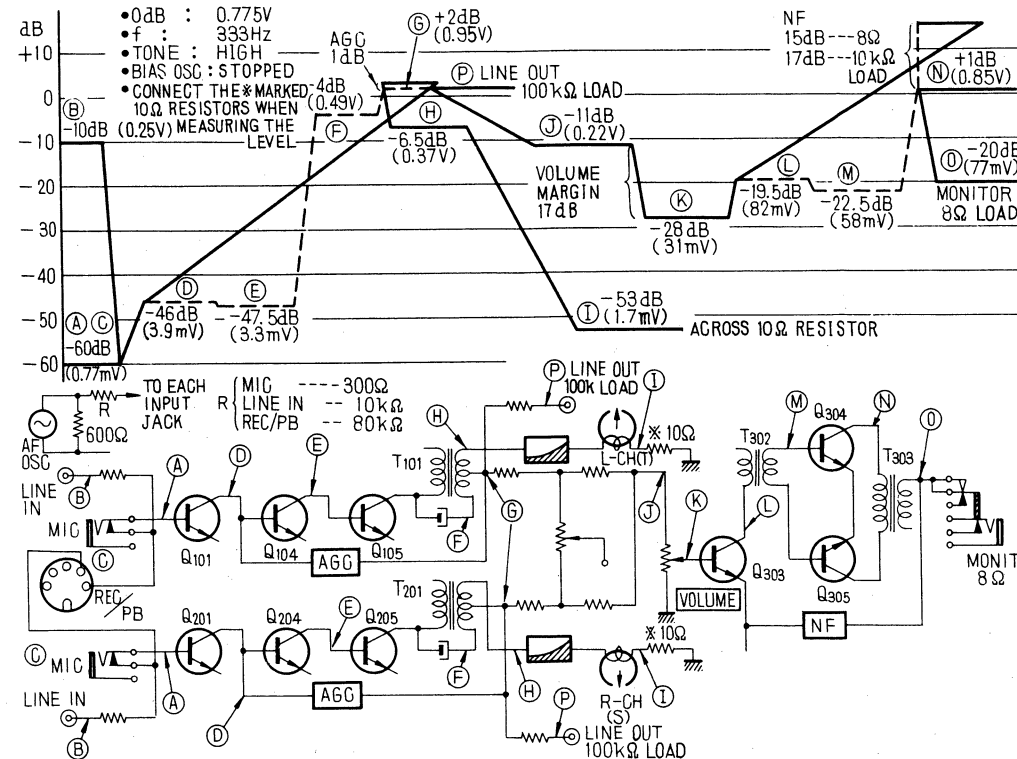
— Playback Mode —



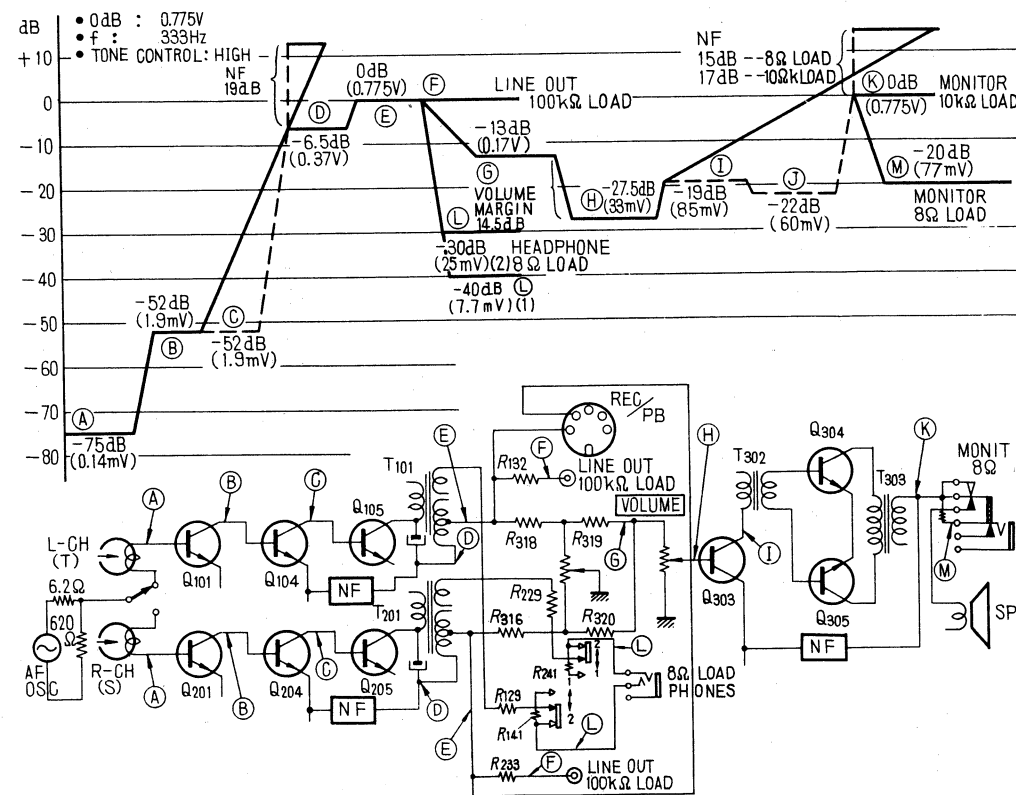
SECTION 5 DIAGRAMS

5-1. LEVEL DIAGRAM

— NORMAL Record Mode —



— Playback Mode —



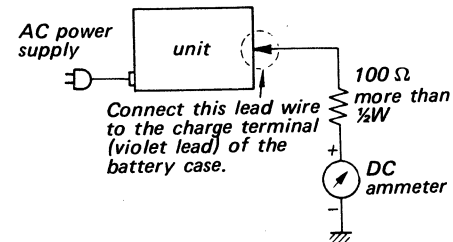
24. Charge Current Check

Settings:

POWER switchOFF

Procedure:

1. Test Setup

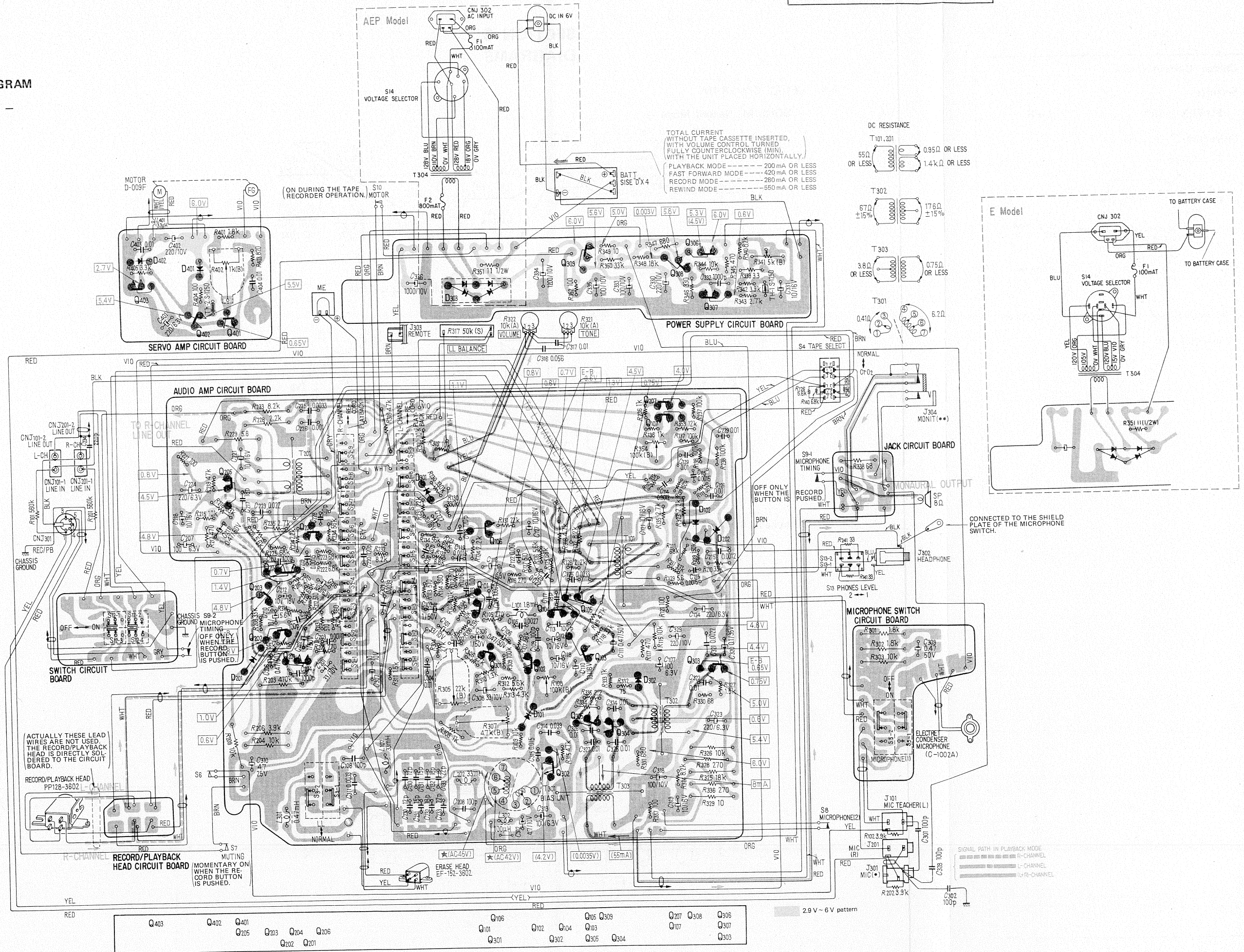


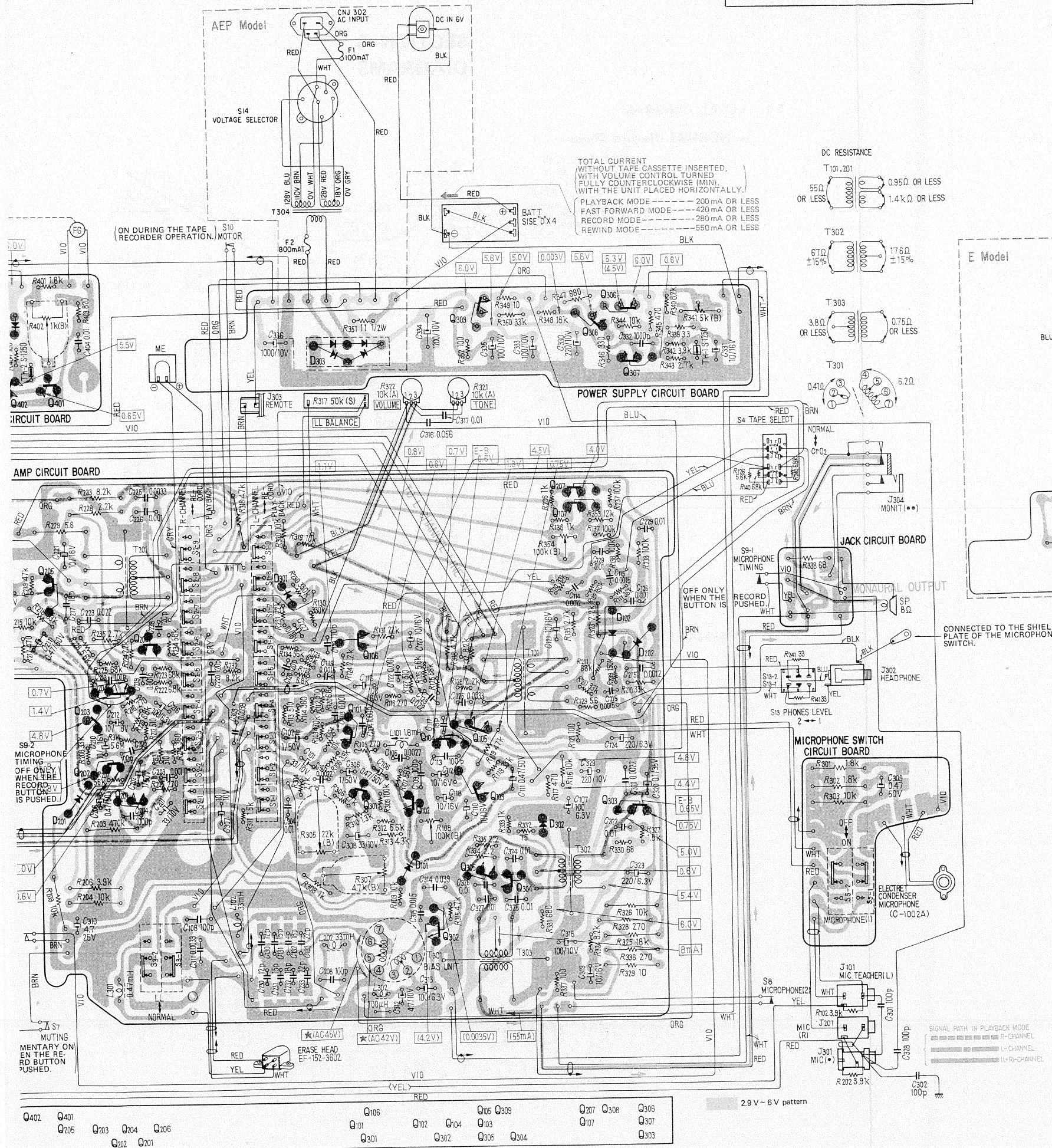
2. Make sure that the reading is as specified.

Specification: 45 ~ 75 mA.

5-2. MOUNTING DIAGRAM

— Conductor Side —

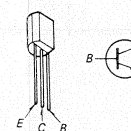




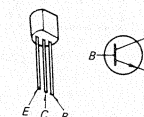
Semiconductor Lists

Q101 (Q201) ...	2SC1361	D101 (D201).....	1T-40
Q102 (Q202) ...	2SC1363	D102 (D202).....	1T-40
Q103 (Q203) ...	2SC1363	D301	1T-22
Q104 (Q204) ...	2SC1363	D302	VD-1123
Q105 (Q205) ...	2SC1363	D303.....	SIRB-10
Q106 (Q206) ...	2SC1363	D401.....	1T-40
Q107 (Q207) ...	2SC1363	D402.....	10D-2
Q301	2SC1361	Th1, 2	S-1250
Q302	2SC1474		
Q303	2SC1363		
Q304	2SC1474		
Q305	2SC1474		
Q306	2SA772		
Q307	2SC1363		
Q308	2SC1363		
Q309	2SC1363		
Q401	2SC1363		
Q402	2SB475		
Q403	2SC1474		

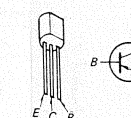
2SC1361
2SC1363



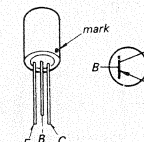
2SC1474



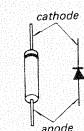
2SA772



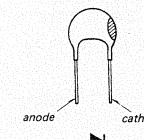
2SB475



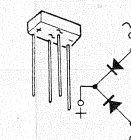
1T-40
1T-22



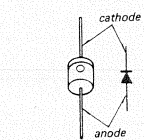
VD-1123



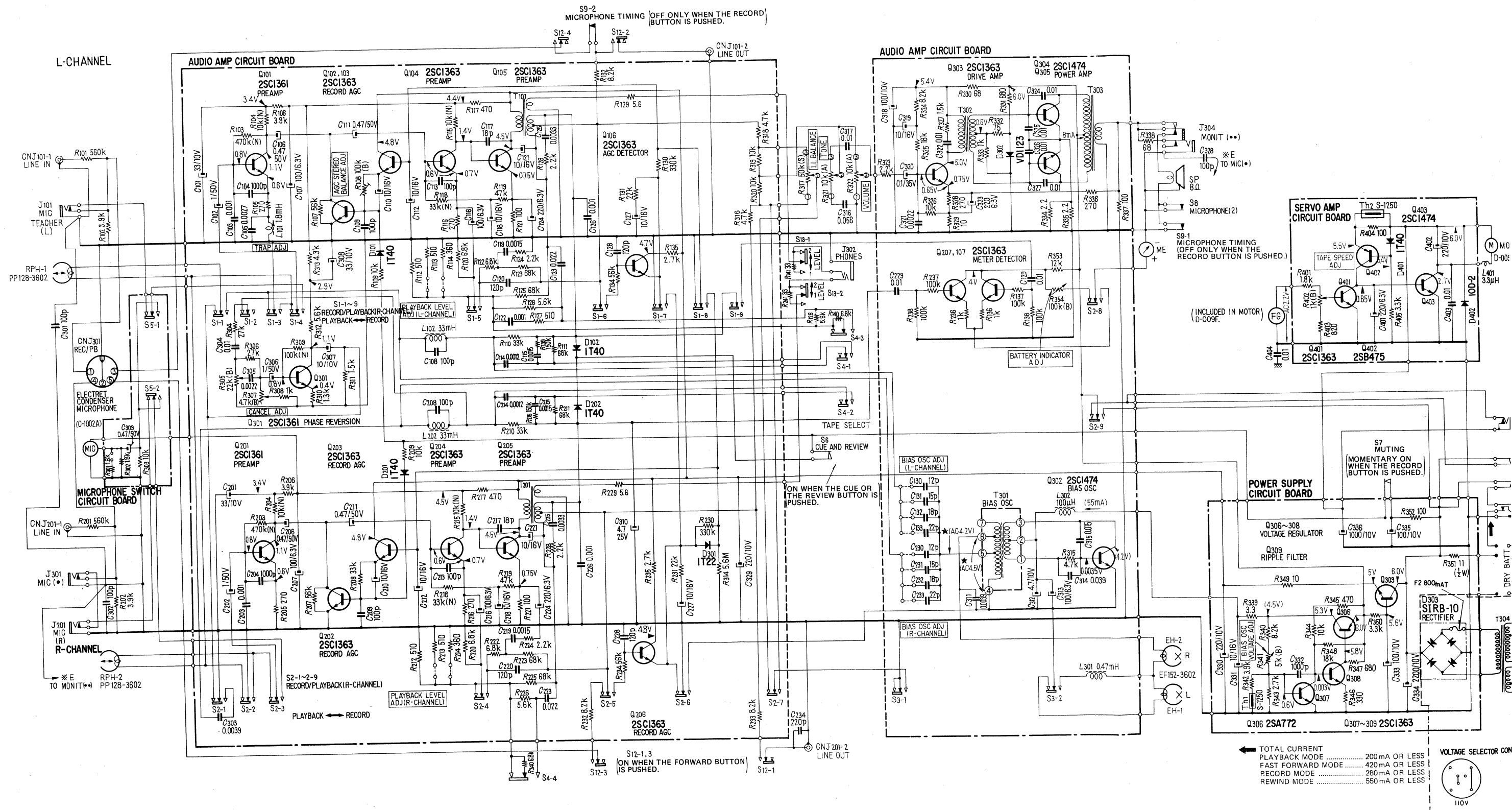
SIRB-10



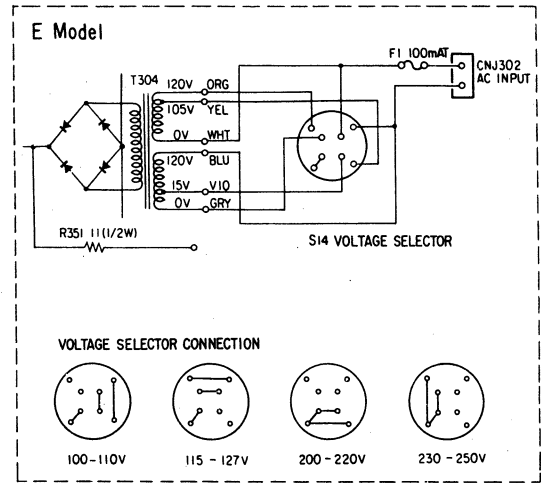
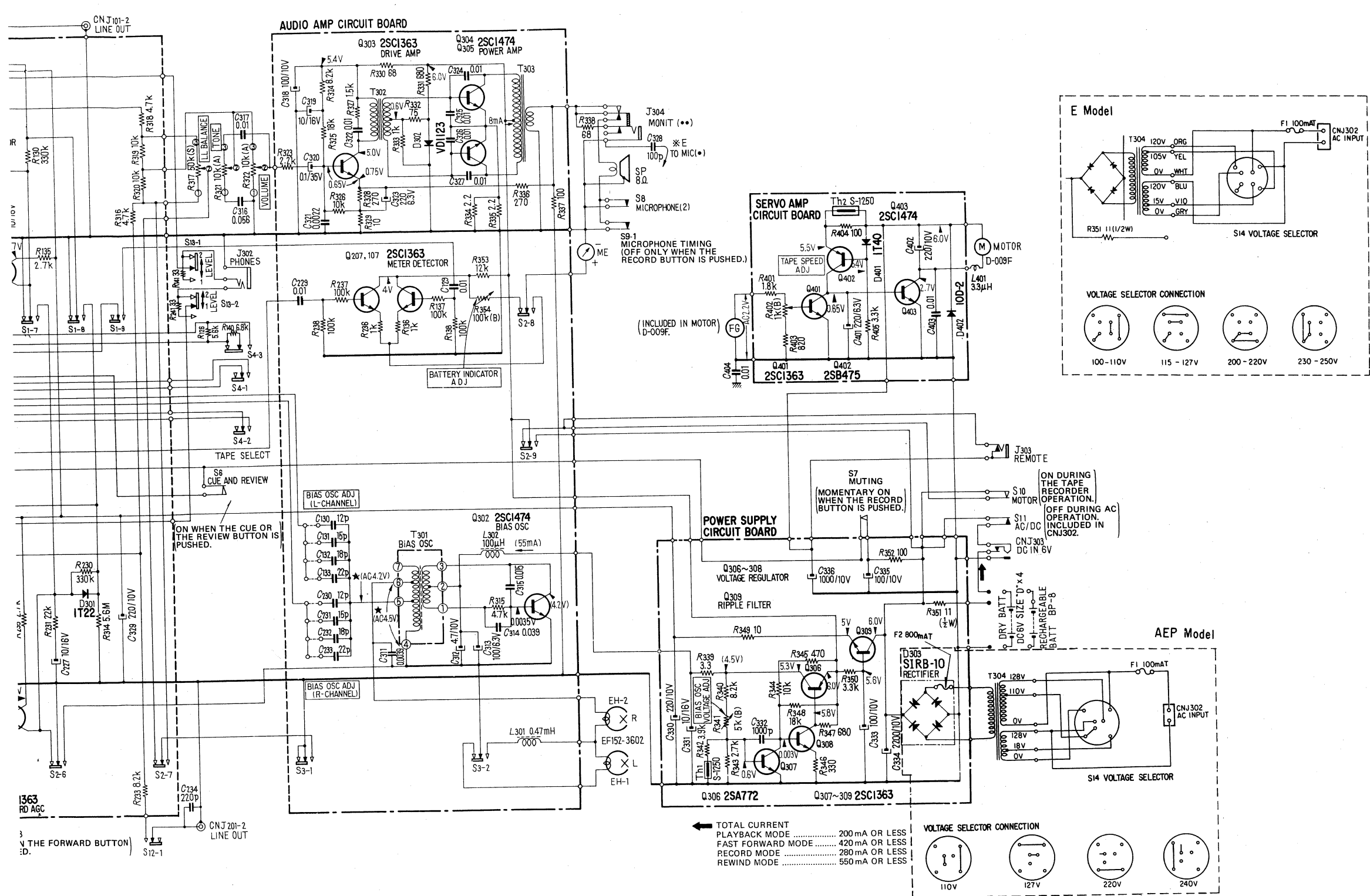
10D-2



5.3. SCHEMATIC DIAGRAM



3 (OFF ONLY WHEN THE RECORD
BUTTON IS PUSHED.)



Note:

- All resistors are in Ω , $\frac{1}{4}$ W and carbon type unless otherwise indicated. k = 1000.
- All capacitors are in μ F unless otherwise indicated. p = μ p.
- Letter in () suffixed to variable resistor value indicates characteristics.
- --- : chassis ground
- (N) : low noise resistor
- Voltage values shown are measured to chassis ground with a voltmeter (20 k Ω /V).
- no mark : playback mode
- () : record mode

Voltage values between the emitter and the base of transistors are measured with 2.5 V range.

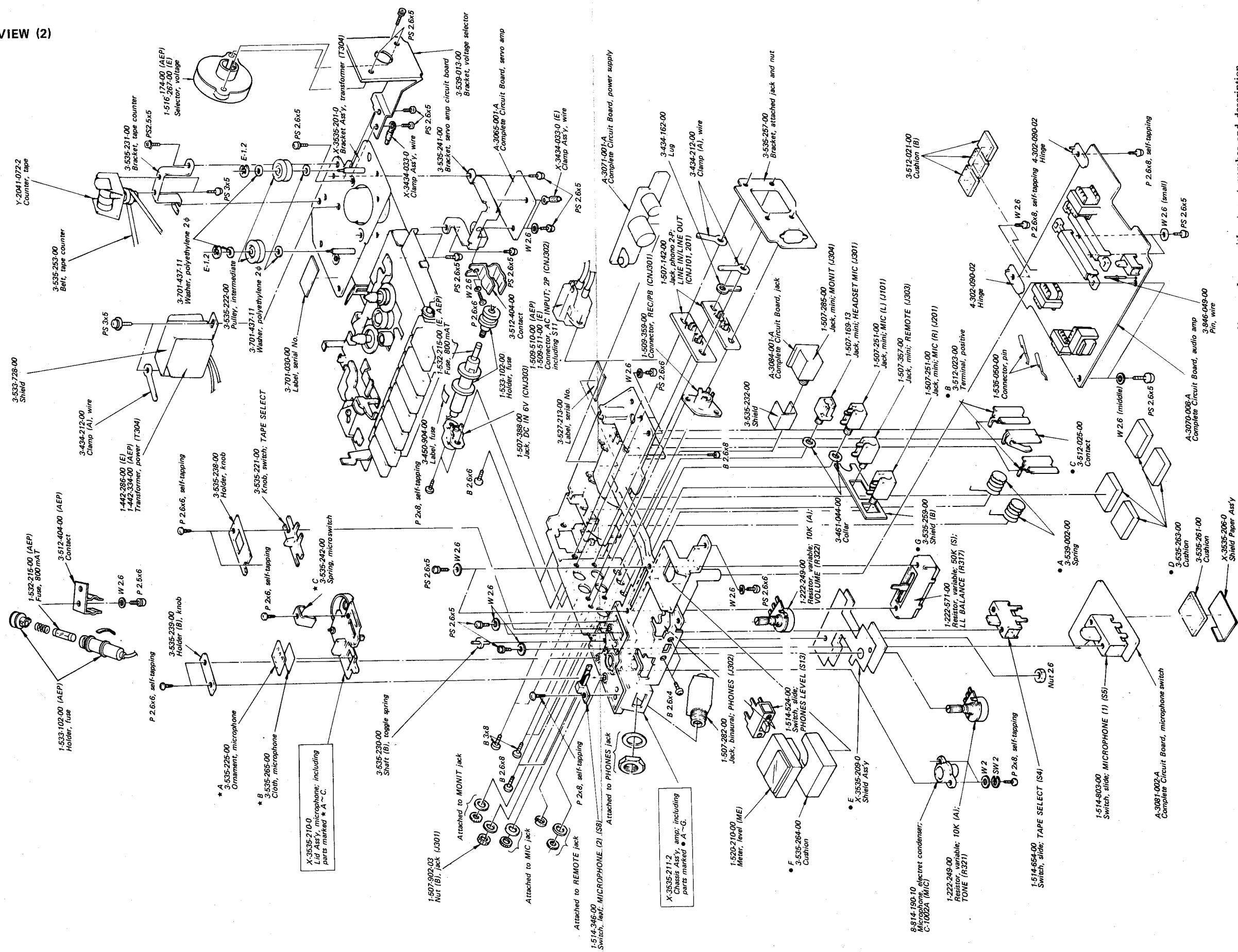
Voltage values marked with * are measured with VTVM.

• Connect R301 resistor into the circuit when a red mark microphone is used.

• Switch mode:

Ref. No.	Switch	Mode
S1-1-1-9	record/playback (L-channel)	playback
S2-1-2-9	record/playback (R-channel)	playback
S3-1-3-2	LL/NORMAL	NORMAL
S4-1-4-4	TAPE SELECT (CrO ₂ /NORMAL)	NORMAL
S5-1-5-2	MICROPHONE (1) (ON when the built-in microphone is used.)	OFF
S6	CUE and REVIEW (ON when the CUE or the REVIEW button is pushed.)	OFF
S7	muting (momentary ON when the record button is pushed.)	OFF
S8	MICROPHONE (2) (OFF when the built-in microphone is used, joined to S5.)	ON
S9-1-9-2	microphone timing (this switch turns OFF to stop the output signals through REC/PB connector in record mode.)	ON
S10	motor (ON during the tape recorder operation.)	OFF
S11	AC/DC (OFF during AC operation, included in CNJ302.)	DC
S12-1-12-4	LINE OUT and REC/PB (ON when the forward button is pushed.)	OFF
S13	PHONES LEVEL (1/2)	2
S14	voltage selector	E: 100-110 V, 115-127 V 200-220 V, 230-250 V AEP: 110 V, 127 V, 220 V, 240 V

6-2. EXPLODED VIEW (2)



Note: ○ Items without part number and description are not available.
○ All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head

This diagram is an exploded view of a record player assembly, showing the relationship between various components. The parts are labeled with alphanumeric codes and descriptions. Key sub-assemblies include the motor, tonearm, pickup, and various mechanical linkages and buttons. The diagram uses dashed lines to indicate the assembly path for many components. A legend at the bottom right identifies parts marked with letters A through J.

Legend:

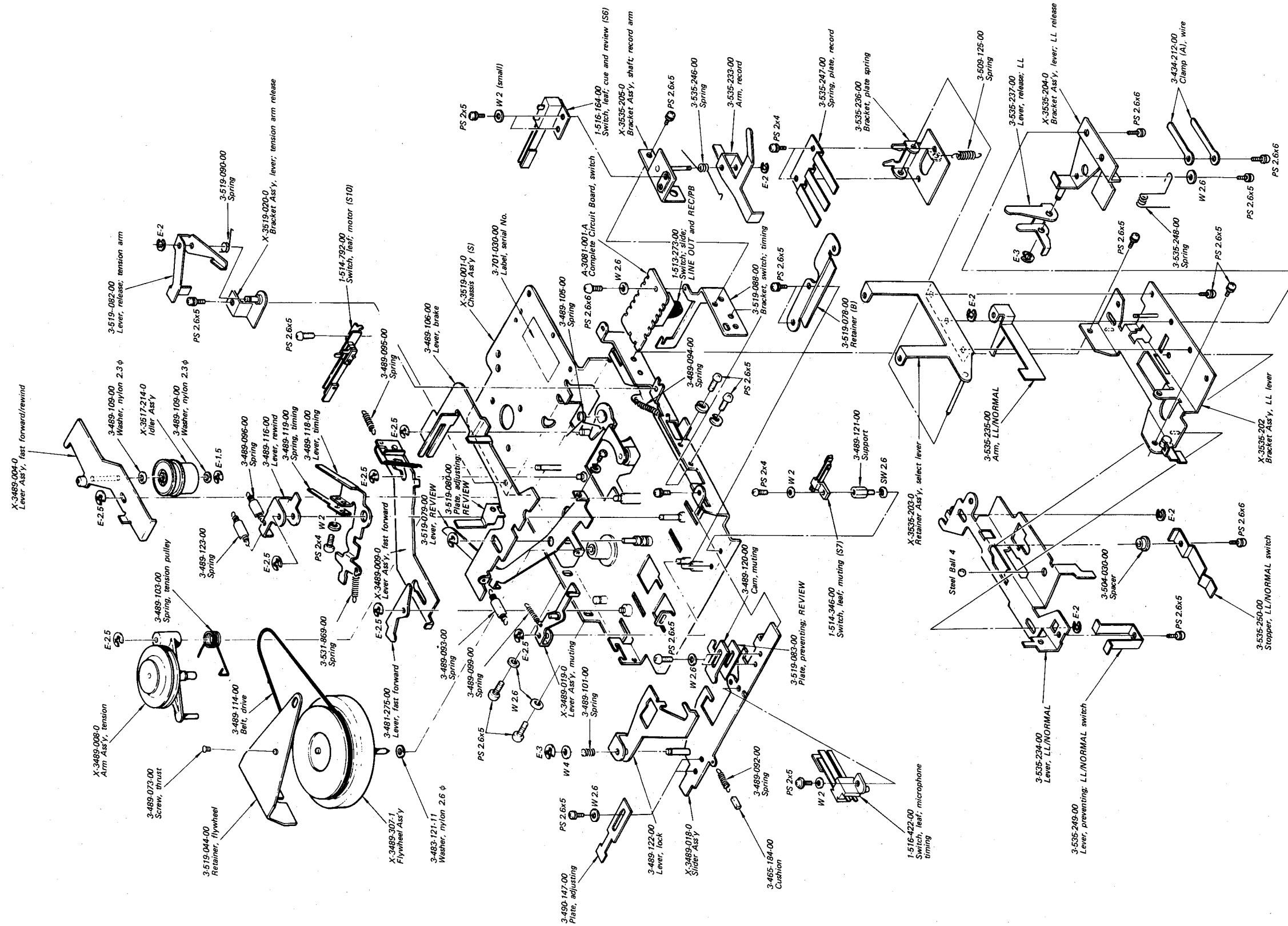
- A: X-3519-028-0 Button Assy, EJECT; including part marked C.
- B: X-3519-019-0 Slider Assy, pause.
- C: X-3519-021-0 Lever Assy, record.
- D: X-3519-018-0 Bracket Assy, pause.
- E: X-3519-022-0 Arm Assy, preventing: cue.
- F: X-3519-087-0 Retainer, button; pause.
- G: X-3519-076-0 Shaft, lever; pause.
- H: X-3519-024-0 PAUSE; including part marked C.
- I: X-3519-024-0 PAUSE; including part marked C.
- J: X-3519-023-0 Bracket Assy, pause; including parts marked A ~ J.

Other labeled parts include:

- 3-489-005-0 Motor, D-005F (M)
- 3-489-006-0 Cushion, motor
- 3-489-007-0 Arm Assy, pinch roller
- 3-489-008-0 Head, record/playback; PP128-3602
- 3-489-009-0 Washer, pick-up
- 3-489-010-0 Arm, pick-up
- 3-489-011-0 Spring
- 3-489-012-0 Lever Assy, cam gear
- 3-489-013-0 Head Deck Assy
- 3-489-014-0 Spring
- 3-489-015-0 Plate, including: head deck
- 3-489-016-0 Spring
- 3-489-017-0 Ornament, button: EJECT
- 3-489-018-0 Ornament, button: fast forward/rewind
- 3-489-019-0 Spring
- 3-489-020-0 Ornament, button: stop
- 3-489-021-0 Button Assy, stop; including part marked C.
- 3-489-022-0 Ornament, button: forward
- 3-489-023-0 Button Assy, forward; including part marked C.
- 3-489-024-0 Ornament, button: RECORD
- 3-489-025-0 Button Assy, RECORD; including part marked C.
- 3-489-026-0 Frame Assy, pushbutton
- 3-489-027-0 Lock Plate (M) Assy, pushbutton
- 3-489-028-0 Steel Ball 2.5
- 3-489-029-0 Holder, head deck
- 3-489-030-0 Gear, cam
- 3-489-031-0 Pick Up, tension
- 3-489-032-0 Head, erase; EF1E2-3602 (EH)
- 3-489-033-0 SW 2
- 3-489-034-0 P 2x6
- 3-489-035-0 W 2
- 3-489-036-0 E 2
- 3-489-037-0 Steel Ball 2.5
- 3-489-038-0 Spring
- 3-489-039-0 Washer, pick-up
- 3-489-040-0 Arm, pick-up
- 3-489-041-0 Spring
- 3-489-042-0 Lever Assy, cam gear
- 3-489-043-0 Head Deck Assy
- 3-489-044-0 Spring
- 3-489-045-0 Plate, including: head deck
- 3-489-046-0 Spring
- 3-489-047-0 Ornament, button: EJECT
- 3-489-048-0 Ornament, button: fast forward/rewind
- 3-489-049-0 Spring
- 3-489-050-0 Ornament, button: stop
- 3-489-051-0 Button Assy, stop; including part marked C.
- 3-489-052-0 Ornament, button: forward
- 3-489-053-0 Button Assy, forward; including part marked C.
- 3-489-054-0 Ornament, button: RECORD
- 3-489-055-0 Button Assy, RECORD; including part marked C.
- 3-489-056-0 Frame Assy, pushbutton
- 3-489-057-0 Lock Plate (M) Assy, pushbutton
- 3-489-058-0 Steel Ball 2.5
- 3-489-059-0 Holder, head deck
- 3-489-060-0 Gear, cam
- 3-489-061-0 Pick Up, tension
- 3-489-062-0 Head, erase; EF1E2-3602 (EH)
- 3-489-063-0 SW 2
- 3-489-064-0 P 2x6
- 3-489-065-0 W 2
- 3-489-066-0 E 2
- 3-489-067-0 Steel Ball 2.5
- 3-489-068-0 Spring
- 3-489-069-0 Washer, pick-up
- 3-489-070-0 Arm, pick-up
- 3-489-071-0 Spring
- 3-489-072-0 Lever Assy, cam gear
- 3-489-073-0 Head Deck Assy
- 3-489-074-0 Spring
- 3-489-075-0 Plate, including: head deck
- 3-489-076-0 Spring
- 3-489-077-0 Ornament, button: EJECT
- 3-489-078-0 Ornament, button: fast forward/rewind
- 3-489-079-0 Spring
- 3-489-080-0 Ornament, button: stop
- 3-489-081-0 Button Assy, stop; including part marked C.
- 3-489-082-0 Ornament, button: forward
- 3-489-083-0 Button Assy, forward; including part marked C.
- 3-489-084-0 Ornament, button: RECORD
- 3-489-085-0 Button Assy, RECORD; including part marked C.
- 3-489-086-0 Frame Assy, pushbutton
- 3-489-087-0 Lock Plate (M) Assy, pushbutton
- 3-489-088-0 Steel Ball 2.5
- 3-489-089-0 Holder, head deck
- 3-489-090-0 Gear, cam
- 3-489-091-0 Pick Up, tension
- 3-489-092-0 Head, erase; EF1E2-3602 (EH)
- 3-489-093-0 SW 2
- 3-489-094-0 P 2x6
- 3-489-095-0 W 2
- 3-489-096-0 E 2
- 3-489-097-0 Steel Ball 2.5
- 3-489-098-0 Spring
- 3-489-099-0 Washer, pick-up
- 3-489-100-0 Arm, pick-up
- 3-489-101-0 Spring
- 3-489-102-0 Lever Assy, cam gear
- 3-489-103-0 Head Deck Assy
- 3-489-104-0 Spring
- 3-489-105-0 Plate, including: head deck
- 3-489-106-0 Spring
- 3-489-107-0 Ornament, button: EJECT
- 3-489-108-0 Ornament, button: fast forward/rewind
- 3-489-109-0 Spring
- 3-489-110-0 Ornament, button: stop
- 3-489-111-0 Button Assy, stop; including part marked C.
- 3-489-112-0 Ornament, button: forward
- 3-489-113-0 Button Assy, forward; including part marked C.
- 3-489-114-0 Ornament, button: RECORD
- 3-489-115-0 Button Assy, RECORD; including part marked C.
- 3-489-116-0 Frame Assy, pushbutton
- 3-489-117-0 Lock Plate (M) Assy, pushbutton
- 3-489-118-0 Steel Ball 2.5
- 3-489-119-0 Holder, head deck
- 3-489-120-0 Gear, cam
- 3-489-121-0 Pick Up, tension
- 3-489-122-0 Head, erase; EF1E2-3602 (EH)
- 3-489-123-0 SW 2
- 3-489-124-0 P 2x6
- 3-489-125-0 W 2
- 3-489-126-0 E 2
- 3-489-127-0 Steel Ball 2.5
- 3-489-128-0 Spring
- 3-489-129-0 Washer, pick-up
- 3-489-130-0 Arm, pick-up
- 3-489-131-0 Spring
- 3-489-132-0 Lever Assy, cam gear
- 3-489-133-0 Head Deck Assy
- 3-489-134-0 Spring
- 3-489-135-0 Plate, including: head deck
- 3-489-136-0 Spring
- 3-489-137-0 Ornament, button: EJECT
- 3-489-138-0 Ornament, button: fast forward/rewind
- 3-489-139-0 Spring
- 3-489-140-0 Ornament, button: stop
- 3-489-141-0 Button Assy, stop; including part marked C.
- 3-489-142-0 Ornament, button: forward
- 3-489-143-0 Button Assy, forward; including part marked C.
- 3-489-144-0 Ornament, button: RECORD
- 3-489-145-0 Button Assy, RECORD; including part marked C.
- 3-489-146-0 Frame Assy, pushbutton
- 3-489-147-0 Lock Plate (M) Assy, pushbutton
- 3-489-148-0 Steel Ball 2.5
- 3-489-149-0 Holder, head deck
- 3-489-150-0 Gear, cam
- 3-489-151-0 Pick Up, tension
- 3-489-152-0 Head, erase; EF1E2-3602 (EH)
- 3-489-153-0 SW 2
- 3-489-154-0 P 2x6
- 3-489-155-0 W 2
- 3-489-156-0 E 2
- 3-489-157-0 Steel Ball 2.5
- 3-489-158-0 Spring
- 3-489-159-0 Washer, pick-up
- 3-489-160-0 Arm, pick-up
- 3-489-161-0 Spring
- 3-489-162-0 Lever Assy, cam gear
- 3-489-163-0 Head Deck Assy
- 3-489-164-0 Spring
- 3-489-165-0 Plate, including: head deck
- 3-489-166-0 Spring
- 3-489-167-0 Ornament, button: EJECT
- 3-489-168-0 Ornament, button: fast forward/rewind
- 3-489-169-0 Spring
- 3-489-170-0 Ornament, button: stop
- 3-489-171-0 Button Assy, stop; including part marked

Note: ○ Items without part number and description are not available.
○ All screws are Philips (cross recess) type unless otherwise noted.
(-) = slotted head

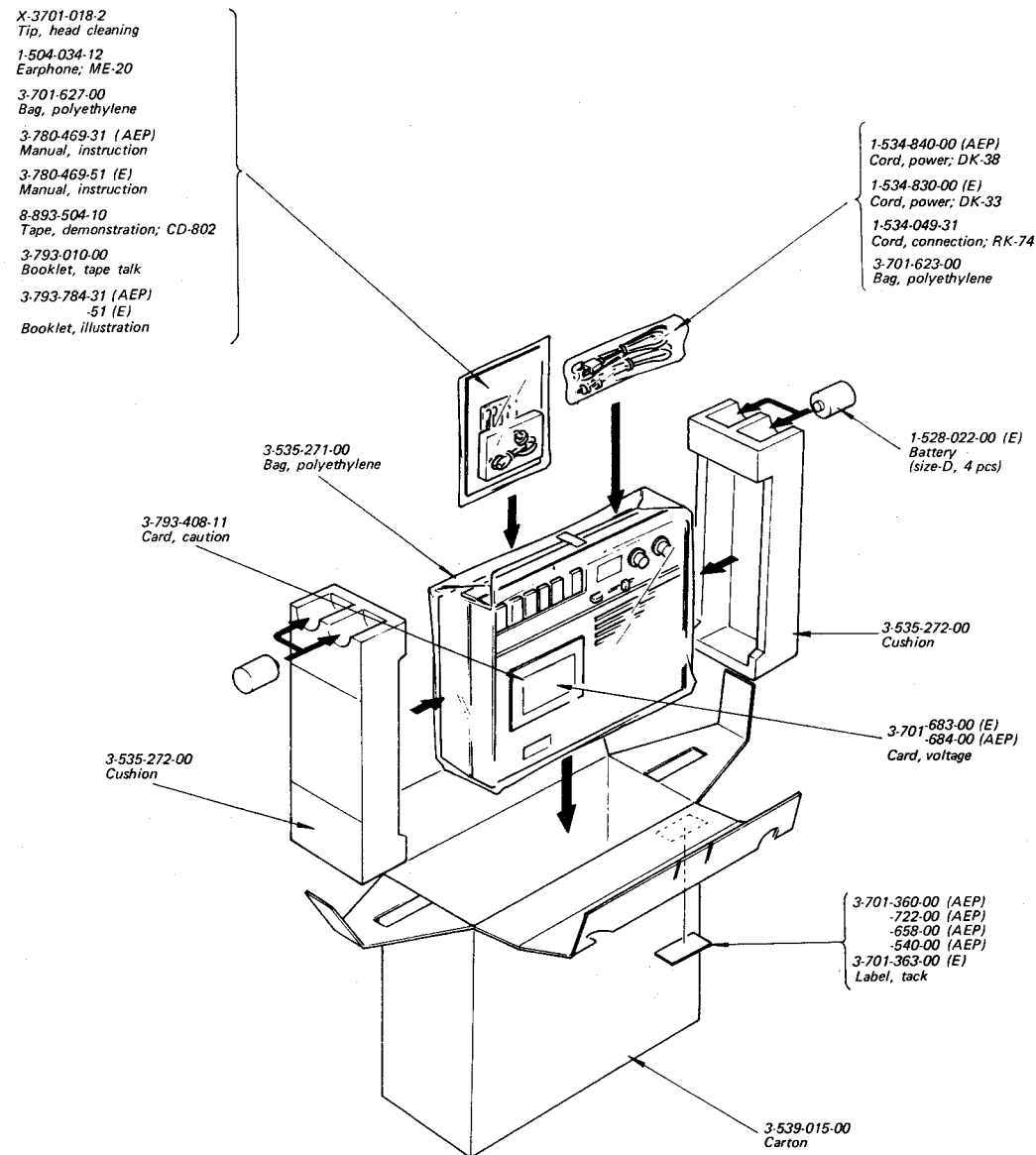
6-4. EXPLODED VIEW (4)



Note: ○ Items without part number and description are not available.
○ All screws are Philips (cross recess) type unless otherwise noted.
(-) = slotted head

SECTION 7 ELECTRICAL PARTS LIST

6-5. PACKING



Note: ◊ Items without part number and description are not available.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
COMPLETE CIRCUIT BOARDS					
	A-3065-001-A	Servo Amp	L301	1-407-488-00	470 μ H, microinductor
	A-3070-008-A	Audio Amp	L302	1-407-169-00	100 μ H, microinductor
	A-3071-001-A	Power Supply	L401	1-407-484-21	3.3 μ H, microinductor
	A-3081-001-A	Switch	TRANSFORMERS		
	A-3081-002-A	Microphone Switch	T101, 201	1-427-317-00	Output
	A-3084-001-A	Jack	T301	1-433-166-00	Bias Osc
	A-3089-001-A	Record/Playback Head	T302	1-423-049-00	Input
			T303	1-427-256-00	Output
			T304	1-442-286-00	Power (E)
				1-442-334-00	Power (AEP)
SEMICONDUCTORS					
Q101, 201	Transistor	2SC1361	CAPACITORS		
Q102, 202	Transistor	2SC1363	All capacitors are in μ F unless otherwise indicated. (p = μ μ, elect = electrolytic)		
Q103, 203	Transistor	2SC1363	C101, 202	1-121-402-11	33 10V elect
Q104, 204	Transistor	2SC1363	C102, 202	1-121-391-11	1 50V elect
Q105, 205	Transistor	2SC1363	C103, 203	1-105-661-12	0.001 50V mylar
			C104, 204	1-102-074-11	1000 P 50V ceramic
Q106, 206	Transistor	2SC1363	C105	1-105-666-12	0.0027 50V mylar
Q107, 207	Transistor	2SC1363			
Q301	Transistor	2SC1361	C106, 206	1-121-726-11	0.47 50V elect
Q302	Transistor	2SC1474	C107, 207	1-121-413-11	100 6.3V elect
Q303	Transistor	2SC1363	C108, 208	1-107-169-11	100 P 500V silvered mica
Q304, 305	Transistor	2SC1474	C109, 209	1-102-106-11	100 P 50V ceramic
Q306	Transistor	2SA772	C110, 210	1-121-651-11	10 16V elect
Q307 ~ 309	Transistor	2SC1363			
Q401	Transistor	2SC1363	C111, 211	1-121-726-11	0.47 50V elect
Q402	Transistor	2SB475	C112, 212	1-121-651-11	10 16V elect
Q403	Transistor	2SC1474	C113, 213	1-102-106-11	100 P 50V ceramic
D101, 201	Diode	1T-40	C114, 214	1-105-662-12	0.0012 50V mylar
D102, 202	Diode	1T-40	C115, 215	1-105-663-12	0.0015 50V mylar
D301	Diode	1T-22			
D302	Diode	VD-1123	C116, 216	1-121-413-11	100 6.3V elect
D303	Diode	S1RB10	C117, 217	1-107-113-11	18 P 50V silvered mica
D401	Diode	1T-40	C118, 218	1-121-651-11	10 16V elect
D402	Diode	10D-2	C119, 219	1-105-663-12	0.0015 50V mylar
Th1, 2	1-800-199-11	Thermistor S-1250	C120, 220	1-107-133-11	120 P 50V silvered mica
COILS					
L101	1-409-141-00	1.8 mH	C121, 221	1-121-651-11	10 16V elect
L102	1-407-510-00	33 mH, microinductor	C122	1-105-661-12	0.001 50V mylar
L202	1-407-561-00	33 mH, microinductor	C123, 223	1-105-677-12	0.022 50V mylar
			C124, 224	1-121-419-11	220 6.3V elect
			C125, 225	1-105-667-12	0.0033 50V mylar
			C126, 226	1-105-661-12	0.001 50V mylar
			C127, 227	1-121-651-11	10 16V elect

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>		
C128, 228	1-107-133-11	120 P	50V	silvered mica
C129, 229	1-105-833-12	0.01	50V	mylar
C130, 230	1-107-050-11	12 P	500V	silvered mica
C131, 231	1-107-051-11	15 P	500V	silvered mica
C132, 232	1-107-001-11	18 P	500V	silvered mica
C133, 233	1-107-052-11	22 P	500V	silvered mica
C201	1-131-195-11	33	10V	solid tantalum
C234	1-102-110-11	220 P	50V	ceramic
C301, 302	1-102-106-11	100 P	50V	ceramic
C303	1-105-669-12	0.0039	50V	mylar
C304	1-105-673-12	0.01	50V	mylar
C305	1-105-665-12	0.0022	50V	mylar
C306	1-121-391-11	1	50V	elect
C307	1-131-193-11	10	10V	solid tantalum
C308	1-121-402-11	33	10V	elect
C309	1-121-726-00	0.47	50V	elect
C310	1-121-395-11	4.7	25V	elect
C311	1-129-861-11	0.0039	500V	polypropylene
C312	1-131-192-11	4.7	10V	solid tantalum
C313	1-121-413-11	100	6.3V	elect
C314	1-105-680-12	0.039	50V	mylar
C315	1-105-675-12	0.015	50V	mylar
C316	1-105-682-12	0.056	50V	mylar
C317	1-105-673-12	0.01	50V	mylar
C318	1-121-414-11	100	10V	elect
C319	1-121-651-11	10	16V	elect
C320	1-131-209-21	0.1	35V	solid tantalum
C321	1-105-665-12	0.0022	50V	mylar
C322	1-105-833-12	0.01	50V	mylar
C323	1-121-419-11	220	6.3V	elect
C324 ~ 327	1-101-923-11	0.01	25V	ceramic
C328	1-102-106-11	100 P	50V	ceramic
C329, 330	1-121-420-11	220	10V	elect
C331	1-121-651-11	10	16V	elect
C332	1-102-074-11	1000 P	50V	ceramic
C333	1-121-414-11	100	10V	elect
C334	1-121-659-11	2200	10V	elect
C335	1-121-414-11	100	10V	elect
C336	1-121-736-11	1000	10V	elect
C401	1-121-419-11	220	6.3V	elect
C402	1-121-420-11	220	10V	elect
C403, 404	1-101-923-11	0.01	25V	ceramic

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>		
RESISTORS				
All resistors are ¼W, carbon type, and in Ω unless otherwise indicated. (k = 1000, M = 1000 k)				
R101, 201	1-244-739-11	560		
R102, 202	1-244-687-11	3.9 k		
R103, 203	1-242-737-09	470 k	low noise	
R104, 204	1-242-697-09	10 k	low noise	
R105, 205	1-242-659-11	270		
R106, 206	1-242-687-11	3.9 k		
R107, 207	1-242-715-11	56 k		
R108	1-222-845-00	100 k (B)	adjustable	
R109	1-242-697-11	10 k		
R110, 210	1-242-709-11	33 k		
R111, 211	1-242-717-11	68 k		
R112, 212	1-242-666-11	510		
R113, 213				
R114, 214	1-242-662-11	360		
R115, 215	1-242-697-09	10 k	low noise	
R116, 216	1-242-659-11	270		
R117, 217	1-242-665-11	470		
R118, 218	1-242-709-09	33 k	low noise	
R119, 219	1-242-713-11	47 k		
R120, 220	1-242-693-11	6.8 k		
R121, 221	1-242-649-11	100		
R122, 222	1-242-693-11	6.8 k		
R123, 223	1-242-717-11	68 k		
R124, 224	1-242-681-11	2.2 k		
R125, 225	1-242-717-11	68 k		
R126	1-242-691-11	5.6 k		
R127	1-242-666-11	510		
R128	1-242-681-11	2.2 k		
R129	1-242-623-11	82		
R130, 230	1-242-733-11	330 k		
R131, 231	1-242-705-11	22 k		
R132, 232	1-242-695-11	8.2 k		
R134, 234	1-242-715-11	56 k		
R135, 235	1-242-683-11	2.7 k		
R136, 236	1-242-673-11	1 k		
R137, 237	1-242-721-11	100 k		
R138, 238				
R139, 239	1-242-725-11	150 k		
R140, 240	1-242-693-11	6.8 k		
R141, 241	1-242-637-11	33		

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>		
R203	1-242-737-09	470 k	low noise	
R204	1-242-697-09	10 k	low noise	
R206	1-244-687-11	3.9 k		
R208	1-244-709-11	33 k		
R209	1-244-697-11	10 k		
R226	1-244-691-11	5.6 k		
R228	1-244-681-11	2.2 k		
R229	1-244-623-11	8.2		
R233	1-244-695-11	8.2 k		
R301, 302	1-244-679-11	1.8 k		
R303	1-244-697-11	10 k		
R304	1-242-707-11	27 k		
R305	1-222-775-00	22 k (B)	adjustable	
R306	1-242-707-11	27 k		
R307	1-222-773-00	4.7 k (B)	adjustable	
R308	1-242-673-11	1 k		
R309	1-242-721-09	100 k	low noise	
R310	1-242-676-11	1.3 k		
R311	1-209-766-11	1.5 k	1/16 W micro	
R312	1-242-691-11	5.6 k		
R313	1-242-688-11	4.3 k		
R314	1-202-473-31	5.6 M	composition	
R315	1-242-689-11	4.7 k		
R316	1-244-689-11	4.7 k		
R317	1-222-571-00	50 k (S)	adjustable	
R318	1-242-689-11	4.7 k		
R319, 320	1-242-697-11	10 k		
R321	1-222-249-00	10 k (A), variable;	TONE	
R322	1-222-249-00	10 k (A), variable;	VOLUME	
R323	1-242-681-11	2.2 k		
R324	1-242-695-11	8.2 k		
R325	1-244-703-11	18 k		
R326	1-244-697-11	10 k		
R327	1-242-677-11	1.5 k		
R328	1-244-659-11	270		
R329	1-244-625-11	10		
R330	1-242-645-11	68		
R331	1-242-669-11	680		
R332	1-242-646-11	75		
R333	1-242-673-11	1 k		
R334, 335	1-242-609-11	2.2		
R336	1-244-659-11	270		
R337	1-242-649-11	100		
R338	1-202-355-11	68	composition	
R339	1-242-613-11	3.3		

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>		
R340	1-244-695-11	8.2 k		
R341	1-221-311-21	5 k (B)	adjustable	
R342	1-242-687-11	3.9 k		
R343	1-242-683-11	2.7 k		
R344	1-242-697-11	10 k		
R345	1-242-665-11	470		
R346	1-242-661-11	330		
R347	1-242-669-11	680		
R348	1-242-703-11	18 k		
R349	1-242-625-11	10		
R350	1-242-685-11	3.3 k		
R351	1-244-826-11	11 (½W) (E)		
	1-244-829-11	15 (½W) (AEP)		
R352	1-242-649-11	100		
R353	1-242-699-11	12 k		
R354	1-222-845-00	100 k (B)	adjustable	
R401	1-242-679-11	1.8 k		
R402	1-222-771-00	1 k (B)	adjustable	
R403	1-242-671-11	820		
R404	1-242-649-11	100		
R405	1-242-685-11	3.3 k		
SWITCHES				
S1, 2	1-514-976-00	Slide, record/playback		
S3	1-514-803-00	Slide, LL/NORMAL		
S4	1-514-654-00	Slide, TAPE SELECT		
S5	1-514-803-00	Slide, MICROPHONE (1)		
S6	1-516-164-00	Leaf, cue and review		
S7	1-514-346-00	Leaf, muting		
S8	1-514-346-00	Leaf, MICROPHONE (2)		
S9	1-516-422-00	Leaf, microphone timing		
S10	1-514-792-00	Leaf, motor		
S11		Included in AC INPUT (CNJ302), AC/DC		
S12	1-513-273-00	Slide, LINE OUT (REC/PB)		
S13	1-514-524-00	Slide, PHONES LEVEL		
S14	1-516-267-00	Slide, voltage selector (E)		

JACKS			
J101, 201	1-507-251-00	Mini, MIC	
J301	1-507-169-13	Mini, MIC (HEADSET)	
J302	1-507-282-00	Binaural, PHONES	
J303	1-507-357-00	REMOTE (MIC)	
J304	1-507-285-00	Mini, MONIT (HEADSET)	
CNJ101, 201	1-507-142-00	Phono, 2P; LINE IN/LINE OUT	
CNJ301	1-509-359-00	Connector, REC/PB	

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
CNJ302	1-509-510-00	2P, AC INPUT, including S11 (AEP)	MIC	8-814-190-10	Microphone, electret condenser; C-1002A
CNJ302	1-509-511-00	2P, AC INPUT, including S11 (E)	RPH	8-829-236-20	Head, record/playback; PP128-3602
CNJ303	1-507-388-00	DC IN 6V	SP	1-502-480-00	Speaker
MISCELLANEOUS				1-535-047-00	Connector, solderless (E)
				1-535-050-00	Connector, pin
EH	8-825-585-00	Head, erase; EF152-3602	F1	1-532-084-00	Fuse, 100 mAT
M	8-834-009-50	Motor, D-009F	F2	1-532-215-00	Fuse, 800 mAT (AEP)
ME	1-520-210-00	Meter, level		1-533-102-00	Holder, fuse
				1-516-267-00	Switch, voltage selector (E)
				1-516-174-00	Switch, voltage selector (AEP)

SECTION 8 HARDWARE

Part No. Description

SCREWS

All screws are Phillips type (cross recess type)
unless otherwise indicated. (-): slotted head.

7-621-170-39	(-)	2×4
7-621-255-15	P	2×3
7-621-255-25	P	2×4
7-621-255-45	P	2×6
7-621-259-25	P	2×4
7-621-259-35	P	2.6×5
7-621-259-65	P	2.6×10
7-621-770-50	B	2.6×6
7-621-770-62	B	2.6×5
7-621-770-94	B	2.6×10
7-671-771-38	B	2.6×8
7-621-773-65	B	2.6×4
7-682-523-03	B	2×3
7-682-549-05	B	3×8
7-682-624-01	PS	2×4
7-682-625-01	PS	2×5
7-628-253-92	PS	2.6×4
7-628-254-05	PS	2.6×5
7-628-254-15	PS	2.6×6
7-682-646-01	PS	3×5
7-682-648-01	PS	3×8
7-685-104-21	P	2×6, self-tapping
7-685-105-21	P	2×8, self-tapping
7-685-133-21	P	2.6×6, self-tapping
7-685-134-21	P	2.6×8, self-tapping

WASHERS

7-623-105-01	2	small
7-623-105-02	2	small
7-623-105-15	2	
7-623-107-01	2.6	small
7-623-107-02	2.6	small
7-623-107-11	2.6	middle
7-623-107-12	2.6	

Part No. Description

7-623-108-05	3	middle
7-623-108-11	3	middle
7-623-110-02	4	
7-623-205-22	2	spring
7-623-205-31	2	spring
7-623-207-22	2.6	spring

RETAINING RINGS

7-624-101-01	E1	1.2
7-624-102-01	E	1.5
7-624-104-01	E	2
7-624-106-01	E	3
7-624-108-01	E	4
7-624-118-01	E	2.5
7-624-124-01	C2	

NUT

7-684-012-01	2.6
--------------	-----

LUG

7-623-508-01	2.6
--------------	-----

STEEL BALLS

7-671-112-01	2	steel ball
7-671-112-11	2.5	steel ball
7-671-114-01	4	steel ball

RIVET

7-625-112-11	2.6×3
--------------	-------

Sony Corporation

© 1974

— 40 —